DRAFT OWYHEE RESOURCE MANAGEMENT PLAN AND DRAFT ENVIRONMENTAL IMPACT STATEMENT

August, 1996 • Volume 1 (of 3)

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Lower Snake River District
Boise Field Office
3948 Development Avenue
Boise, Idaho 83705-5389

In Reply Refer To:
1600 Owyhee RMP

Dear Public Land User:

Enclosed for your review and comment are alternatives for the Owyhee Resource Management Plan (RMP) and a draft Environmental Impact Statement (EIS). The Owyhee Resource Area located in southwestern Idaho's Owyhee County encompasses 1,779,405 acres with 1,319,651 acres of public land managed by the Bureau of Land Management (BLM). A planning effort has been undertaken to provide the Bureau of Land Management, Lower Snake River District with a comprehensive framework for managing public lands. The purpose of the RMP is to ensure public land use is planned for and managed in accordance with the Federal Land Policy and Management Act of 1976 (FLPMA), and is consistent with the principles of multiple-use and sustained yield.

Four alternatives have been identified, described and analyzed in the draft EIS. Two working groups participated during the planning process by each developing an alternative. Alternative A is a continuation of current management and is the "No Action" Alternative. Alternative B was developed through BLM staff interpretation and analysis of information submitted by the Owyhee County Commissioners with the assistance of the Owyhee County Land Use Planning Committee. Alternative C, the agency preferred alternative, was developed by the BLM Lower Snake River District interdisciplinary planning team. Alternative D was developed through BLM staff interpretation and analysis of information submitted by the Desert Group.

The suitability of wild, scenic and recreational designations on 223 miles of stream segments determined to be eligible for such designations under the Wild and Scenic Rivers Act is addressed in the draft document.

Consideration for designating 775 acres of public land administered by the BLM, Vale District in Oregon as an ACEC is also addressed. This area is contiguous with lands in Idaho which are also being considered for ACEC designation. Designation of this area in Oregon as an ACEC requires amending the Northern Malheur Management Framework Plan (MFP) prepared by the Vale District. Documentation for amending that plan is incorporated into this planning effort.

Public information meetings will be scheduled and announced separately.

Comments need to be postmarked by November 15, 1996 and sent to:

Owyhee Area Manager
Bureau of Land Management
Boise Field Office
3948 Development Avenue
Boise, Idaho 83705

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Thank you for your interest in public land management.

Sincerely,

Jay K. Carlson
Owyhee Area Manager

Draft Owyhee Resource Management Plan and Draft Environmental Impact Statement

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August, 1996 • Volume 1 (of 3)

U.S. Department of the Interior • Bureau of Land Management
Lower Snake River District • Boise Field Office

DRAFT OWYHEE RESOURCE MANAGEMENT PLAN

AND

DRAFT ENVIRONMENTAL IMPACT STATEMENT

OWYHEE COUNTY, IDAHO

1. Responsible Agency: United States Department of the Interior
   Bureau of Land Management
2. Draft (X) Final ( )
3. Administrative Action (X) Legislative Action ( )
4. Abstract: The Owyhee Resource Area land use planning effort has identified four alternatives for managing 1.3 million acres of public land in southwest Idaho. These alternatives are described and analyzed in the draft EIS. Alternative A is a continuation of current management and is the "No Action" Alternative. Alternative B was developed through BLM staff interpretation and analysis of information submitted by the Owyhee County Commissioners with the assistance of the Owyhee County Land Use Planning Committee. Alternative C, the agency preferred alternative, was developed by the BLM Lower Snake River District interdisciplinary planning team. Alternative D was developed through BLM staff interpretation and analysis of information submitted by the Desert Group.

   The draft document includes consideration of 19 areas for Area of Critical Environmental Concern (ACEC) designation with one area located partially in Oregon. Also addressed is suitability of wild, scenic and recreational designations on 223 miles of stream segments determined to be eligible for such designations under the Wild and Scenic Rivers Act.
5. Date comments must be received: November 15, 1996
6. Date draft EIS made available to EPA and public: August 16, 1996
7. For further information contact:

   Owyhee Area Manager
   Bureau of Land Management
   Boise Field Office
   3948 Development Avenue
   Boise, Idaho 83705

   Telephone: (208) 384-3300

Summary

The Owyhee Resource Area located in southwestern Idaho's Owyhee County encompasses 1,779,405 acres with 1,319,651 acres of public land managed by BLM. A planning effort has been undertaken to provide the Bureau of Land Management, Lower Snake River District with a comprehensive framework, or resource management plan (RMP), for managing these public lands administered by the Owyhee Resource Area over the next 20 years. The purpose of the RMP is to ensure public land use is planned for and managed in accordance with the Federal Land Policy and Management Act of 1976 (FLPMA), and is consistent with the principles of multiple-use and sustained yield.

Public participation in the planning process began with publication of a Federal Register Notice of Intent in October 1989 and distribution of a scoping notice in November 1989. The scoping notice was sent to nearly 1,100 individuals, organizations and agencies including nearly 100 livestock permittees. Three public meetings, held in Jordan Valley, Oregon and in Marsing and Boise, Idaho were attended by over 100 people and 164 written scoping comments were received. Public participation also occurred during development of the Planning Criteria and during the Wild and Scenic River study process which is incorporated into this planning effort.

Two groups also participated during the planning process by submitting information and assisting in developing alternatives for the RMP. The Owyhee County Commissioners assisted by the Owyhee County Land Use Planning Committee was one group. The other group was the Desert Group, with membership representing the environmental and conservation oriented community.

To meet Bureau requirements for deciding public land uses, decisions will be made on the following: air resources; soil resources; water resources; vegetation (including noxious weeds); riparian areas; forestry management (including juniper woodlands); wildlife habitat; fishery habitat; special status species (including threatened and endangered species); wild horse management; livestock grazing management; fire management; lands (including tenure adjustments and rights-of-way); locatable minerals; fluid minerals; mineral materials; recreation (including wild and scenic rivers); wilderness; visual resources; cultural resources; hazardous materials; and areas of critical environmental concern.

Objectives were developed to address the future desired condition or status of the various resources. The objectives are based on law and regulation and reflect the direction that public land management is projected to follow in the future. They were modified and adjusted to apply more specifically to the Owyhee Resource Area and are constant throughout all alternatives. The environmental impacts of the alternatives are measured against meeting the objectives.

A objective is an expression of the desired end result of management efforts. Objectives are described so that the expected results are clearly stated, specific, measurable and realistic. Measurability, where appropriate, is expressed in terms of physical units and quality classes. Timeframes have been incorporated where applicable.

Public Law 103-64 was passed by Congress and signed into law on August 4, 1993. This law established the 482,457 acre Snake River Birds of Prey National Conservation Area; 57,109 public land acres are within the Owyhee Resource Area. Section 3.(a)(2) states "The purposes for which the conservation area is established, and shall be managed, are to provide for the conservation, protection, and enhancement of raptor populations and habitats and the natural and environmental resources and values associated therewith, and of the scientific, cultural, and educational resources and values of the public lands in the conservation area." These purposes have been incorporated into the management objectives for this area.

Consideration for designating 775 acres of public land administered by the BLM, Vale District, in Oregon as an ACEC is addressed in this planning effort. This area is contiguous with lands in Idaho which are also being considered for ACEC designation. Designation of this area in Oregon as an ACEC requires amending the Northern Malheur Management Framework Plan (MFP) prepared by the Vale District. Documentation for amending that plan is incorporated into this planning effort. Documentation requirements for the wild and scenic river study for the Owyhee Resource Area are included in this planning effort.

The basic goal for developing alternatives for the RMP is to prepare different combinations of resource uses to address issues and management concerns, and to resolve identified conflicts. A range of resource management intensities and allocations was developed for those resources that were issue related. Non-issue related resource uses, which had only minor or no conflicts, have only small or no differences between the alternatives.

Four alternatives have been identified and are described and analyzed in the draft EIS. Two working groups participated during the planning process by each developing an alternative. Alternative A is a continuation of current management. Alternative B was developed through BLM staff interpretation and analysis of information submitted by the Owyhee County Commissioners with the assistance of the Owyhee County Land Use Planning Committee. Alternative C was developed by the BLM Lower Snake River District interdisciplinary planning team and is the agency preferred alternative. Alternative D was developed through BLM staff interpretation and analysis of information submitted by the Desert Group, with membership representing the environmental and conservation oriented community.

ALTERNATIVE A:

This is the "Current Management" Alternative and the "No Action" Alternative under NEPA regulations. This alternative is based on implementation of the Owyhee Management Framework Plan (MFP) approved in 1981 and is a continuation of present management. This alternative also incorporates the livestock grazing program decisions that were made based on the Owyhee Grazing EIS in 1983 and on those lands within the Owyhee Resource Area addressed in the Bruneau-Kuna Grazing EIS in 1984. This alternative generally satisfies most commodity demands of the public lands while mitigating impacts to sensitive resources on a limited basis. It includes a moderate level of range improvement projects and vegetation treatments. Livestock use levels would continue at present levels subject to adjustments when monitoring studies indicate a changing resource condition or trend has occurred.

ALTERNATIVE B:

This alternative was developed through BLM staff interpretation and analysis of information submitted by the Owyhee County Commissioners with the assistance of the Owyhee County Land Use Planning Committee. This alternative emphasizes commodity development with limited protection of sensitive resources. It includes a moderate level of range improvement projects and a high level of vegetation treatments. Livestock grazing would be increased 11% from the current active preference.

ALTERNATIVE C:

This alternative, the agency preferred alternative, was developed by the BLM Lower Snake River District interdisciplinary planning team. It identifies management actions that would work toward achieving the identified resource objectives within twenty years. This alternative emphasizes improvement in ecological conditions and protection of most of the sensitive resources. It includes a low level of range improvement projects and vegetation treatments. Livestock grazing would be reduced 35% from the current active preference.

ALTERNATIVE D:

This alternative was developed through BLM staff interpretation and analysis of information submitted by the Desert Group, with membership representing the environmental and conservation oriented community. This alternative emphasizes improvement in ecological conditions and protection of sensitive resources with limited opportunities for commodity development. It includes no range improvement projects and a low level of vegetation treatments. Livestock grazing would be reduced 62% from the current active preference.

The table on the following page is a projection of the major, quantifiable resource and land use allocations, management actions, outputs, conditions and environmental impacts for each alternativ. The values displayed for the alternatives are the totals or the projected values at the end of 20 years.

Summary of resource allocations, management actions and environmental impacts by alternative.

Allocation /Action /Impact		**Current Situation**	**Alt. A**	**Alt. B**	**Alt. C**	**Alt. D**
Stream miles						
Riparian Habitat Satisfactory		36	211	236	587	587
Riparian Habitat Unsatisfactory		238	441	416	65	65
Riparian Habitat Undetermined		378	0	0	0	0
Fishery Habitat Satisfactory		43	161	166	460	460
Fishery Habitat Unsatisfactory		469	350	345	51	51
Vegetation	Early Seral	38%	37%	37%	35%	31%
Condition	Mid Seral	47%	44%	31%	43%	44%
Above	Late Seral	13%	17%	27%	20%	23%
3,500'	Seeding	2%	2%	5%	2%	2%
Vegetation	Early Seral	77%	78%	78%	77%	77%
Condition	Mid Seral	18%	17%	15%	18%	18%
Below	Late Seral	0%	0%	2%	0%	0%
3,500'	Seeding	5%	5%	5%	5%	5%
Livestock AUM Level (5 years)		136,285	136,285	136,285	89,257	52,075
Livestock AUM Level (20 years)		136,285	136,285	150,884	89,257	52,075
Range projects	Spring (number)	24	45	45	13	0
(Current	Reservoir (number)	127	19	19	11	0
situation	Pipeline (miles)	65	3	22	22	0
reflects	Fence (miles)	290	216	131	76	0
1981	Cattleguard	100	75	55	22	0
through	Brush burn (acres)	9,195	52,500	264,403	34,100	34,100
1995)	Juniper burn (acres)	4,428	55,700	92,320	30,300	30,300
	Burn/seed (acres)	8,368	13,400	83,880	0	0
Locatable mineral acres withdrawn		65,457	218,649	95,687	247,902	797,638
Locatable mineral acres open		1,403,401	1,250,209	1,373,171	1,220,956	671,220
Fluid mineral acres closed		65,131	98,853	94,651	121,553	797,312
Fluid mineral acres open		1,403,727	1,370,005	1,374,207	1,347,305	671,546
Mineral material acres closed		65,131	218,285	218,285	232,563	797,312
Mineral material acres open		1,403,727	1,250,573	1,250,573	1,236,295	671,546
OHMV Use	Open	420,493	420,493	0	0	0
Designations	Limited	899,158	899,158	1,319,651	1,075,284	980,677
(acres)	Closed	0	0	0	244,367	338,974
Special Rect. Mgmt. Area (number)		10	10	10	9	8
Special Rect. Mgmt. Area (acres)		312,801	312,801	312,801	348,830	721,655
Wild and Scenic River (segments)		1	3	1	9	24
Wild and Scenic River (miles)		66	94	66	163	223
ACEC/ONA (number)		4	4	4	17	19
ACEC/ONA (acres)		156,594	156,594	156,594	261,868	291,868
Range projects ($) 2,536,491		2,437,112	5,530,374	962,713	411,075	
Recreation costs ($)		273,545	985,000	985,000	1,700,300	1,700,300
Total costs ($)		2,832,476	3,422,112	6,515,374	2,663,013	2,111,375
Owyhee Cnty total PW income ($)		105,358,600	+1,006,000	+1,760,900	-923,200	-2,539,000
Owyhee County total PW income (%)		-	+0.96%	+1.67%	-0.88%	-2.28%
Owyhee County FTE (number)		3,421	+32	+57	-29	-76
Owyhee County fml demand ($)		$162,955,900	+1,219,000	+2,136,900	-1,120,400	-2,812,000
Owyhee County fnl demand (%)		-	+0.75%	+1.31%	-0.69%	-1.79%
Regional total PW income ($)		$6,045,521,000	+1,205,800	+2,725,700	-1,090,900	-2,852,200
Regional total PW income (%)		-	+0.02%	+0.05%	-0.02%	-0.05%
Regional FTE (number)		219,349	+44	+95	-42	-108
Regional final demand ($)		$96,415,470,000	+1,609,200	+3,552,500	-1,519,800	-3,919,700
Regional final demand (%)		-	+0.02%	+0.04%	-0.02%	-0.04%
Regional population		355,200	+72	+157	-70	-179

* 1990 used as base for economic data.

The following table displays how each of the alternatives meet the objectives. The objectives are defined following the table.

Comparison of Meeting the Objectives by Alternative

	Alternative A	Alternative B	Alternative C	Alternative D
AIRQ 1:	Met	Met	Met	Met
SOIL 1:	Met on 40%-60%	Met on 50%-70%	Met on >80%	Met on >80%
SOIL 2:	Met on <20%	Met on 20%-35%	Met on 30-40%	Met on 50%-65%
SOIL 3:	Met on 10%-25%	Met on 25%-50%	Met on 40%-60%	Met on 50%-70%
WATR 1:	Met on 32%	Met on 32%	Met on 90%	Met on 90%
WATR 2:	Met	Partially met	Met	Met
VEGE 1:	Not met (37% early, 17% late)	Not met (37% early, 27% late)	Not met (35% early, 20% late)	Not met (31% early, 23% late)
VEGE 2:	Not met (1% decline)	Not met (2% decline)	Not met (no change)	Not met (no change)
RIPN 1:	Met on 32%	Met on 36%	Met on 90%	Met on 90%
FORS 1:	Generally met	Generally met	Met	Met
FORS 2:	Not met	Not met	Not met	Not met
WDLF 1:	Met	Partially met	Met	Met
WDLF 2:	Not met	Not met	Met	Met
WDLF 3:	Not met	Not met	Met	Met
WDLF 4:	Not met for majority	Not met for majority	Met	Met
FISH 1:	Met on 32%	Met on 32%	Met on 90%	Met on 90%
FISH 2:	Partially met	Met on majority	Partially met	Met on majority
SPSS 1:	Not met in some areas	Not met	Not met in some areas	Met for most
WHRS 1:	Not met	Not met	Met	Met
LVST 1:	Not met	Not met	Generally met	Generally met
LOCM 1:	Met	Met	Met	Not met
FLUM 1:	Met	Met	Met	Not met
MMAT 1:	Met	Met	Met	Not met
RECT 1:	Partially met	Not met	Not met	Not met
RECT 2:	Partially met	Not met	Met	Met
RECT 3:	Met on 42%	Met on 30%	Met on 74%	Met on 100%
RECT 4:	Partially met	Partially met	Met	Partially met
RECT 5:	Not met	Not met	Met	Partially met
RECT 6:	Met	Met	Met	Met
RECT 7:	Met (10%)	Not met (5%)	Met (10%)	Exceeded (12%)
WNES 1:	Met	Not met	Met	Exceeded
WNES 2:	Met	Met	Met	Exceeded
VISL 1:	Partially met	Partially met	Met	Met
CULT 1:	Not met	Not met	Met	Met
CULT 2:	Partially met	Partially met	Met	Met
CULT 3:	Met	Met	Met	Met
HAZM 1:	Met	Met	Met	Met
ACEC 1:	Met on 4 of 19 areas	Met on 4 of 19 areas	Met on 17 of 19 areas	Met on 19 of 19 areas

OBJECTIVES:

AIRQ 1: Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration regulations with all authorized actions.

SOIL 1: Improve unsatisfactory and maintain satisfactory watershed condition on lands above 3,500 feet elevation.

SOIL 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

SOIL 3: Achieve stabilization of specific localized soil erosion problems (particularly streambanks). Reduce the potential for accelerated (human induced) erosion problems by utilizing Best Management Practices (BMPs).

WATR 1: Meet or exceed State of Idaho water quality standards on all Federally administered waters within the Owyhee Resource Area.

WATR 2: Follow current State water rights processes and procedures to acquire water rights for beneficial uses and support establishment of instream flows which are in the public interest. File for water use rights on all unclaimed waters within one year and newly developed water projects prior to construction.

VEGE 1: Achieve an ecological site condition (ESC) on upland habitats on Federal lands within the Jordan Creek and Owyhee River geographic reference areas and those portions of the Snake River geographic reference area above 3,500 feet elevation of at least 40% in late seral and no more than 10% in early seral stage. (Altered ecological sites such as seedings and annual range excepted).

VEGE 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

RIPN 1: Improve all unsatisfactory, nonfunctioning, and functional-at risk categories and maintain all satisfactory and proper functioning condition riparian lands (stream, upland wet meadow and wetlands).

FORS 1: Manage Douglas-fir communities (about 36,200 acres) to emphasize forest health, vegetative diversity, wildlife and watershed values.

FORS 2: Use juniper harvesting to help achieve a desired plant community.

WDLF 1: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of big game species within the Owyhee Resource Area including 1,246,000 acres of mule deer habitat,
50,000 + acres of elk habitat and 819,000 acres of pronghorn habitat.

WDLF 2: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of upland game including 904,000 acres of sage grouse habitat, 547,000 acres of chukar habitat and 29,000 acres of pheasant habitat.

WDLF 3: Maintain satisfactory and improve unsatisfactory wetland/riparian habitat for waterfowl, furbearers and a diversity of other game and nongame species.

WDLF 4: Maintain satisfactory and improve unsatisfactory habitat for a large diversity of nongame wildlife on 1.3 million acres.

FISH 1: Improve unsatisfactory condition and maintain satisfactory condition habitat to support native fish so that all perennial streams are in satisfactory condition in 20 years.

FISH 2: Improve reservoir fisheries, when appropriate, in consultation with State agencies and adjacent landowners.

SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

WHRS 1: Maintain wild and free-roaming horses in the Owyhee Wild Horse Herd Management Areas (HMAs) at appropriate management levels (AML) within a thriving natural ecological balance.

LVST 1: Resolve issues associated with livestock grazing identified in the allotment summary (Appendix LVST-1). Eliminate identified issues within 20 years.

LOCM 1: Provide opportunities for exploration and development of locatable mineral resources on public lands under the Mining Laws.

FLUM 1: Provide opportunities for exploration and development of oil and gas and geothermal resources on public lands by imposing the least restrictive leasing categories necessary to protect other resources.

MMAT 1: Provide opportunities for use of common variety minerals obtained from the public lands.

RECT 1: Provide for off-highway motor vehicle (OHMV) use on public lands while protecting sensitive resource values.

RECT 2: Provide special management attention to areas of public land with identified special recreational, scenic, and cultural values where current and projected recreational demand warrants intensive management.

RECT 3: Determine the suitability of all eligible rivers and streams for inclusion in the National Wild and Scenic Rivers System.

RECT 4: Provide for high quality recreational opportunities and experiences at developed and undeveloped recreation sites by maintaining existing amenities (roaded natural, urban and semi-primitive motorized settings) and by providing new recreation sites for the public's enjoyment, with emphasis on roaded natural and semi-primitive motorized settings.

RECT 5: Develop a trail system that provides a range of motorized and nonmotorized recreation opportunities for the public's enjoyment of primitive, semi-primitive nonmotorized, semi-primitive motorized, and roaded natural settings.

RECT 6: Pursue increased public access opportunities in motorized and nonmotorized settings through the acquisition of fee titles or recreational easements (willing landowners only).

RECT 7: Retain at least 10% of the ORA in a primitive recreational opportunity (ROS) setting.

WNES 1: Manage wilderness study areas so as not to impair their suitability for potential designation as wilderness.

WNES 2: Following any enabling legislation, manage designated wilderness areas to ensure an enduring wilderness resource.

VISL 1: Manage public lands for visual resource values under Visual Resource Management (VRM) classifications.

CULT 1: Protect known cultural resource values from loss until their significance is determined.

CULT 2: Provide special management emphasis for the protection and conservation of significant cultural resource sites and values.

CULT 3: Increase the opportunity for educational, recreational, socio-cultural and scientific uses of cultural resources.

HAZM 1: Reduce the occurrence and severity of hazardous material incidences on public lands.

ACEC 1: Designate Areas of Critical Environmental Concern (ACECs) where relevance and importance criteria are met and apply special management to protect the values identified.

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PURPOSE AND NEED

The Owyhee Resource Management Plan (RMP) is being prepared to provide the Bureau of Land Management, Lower Snake River District with a comprehensive framework for managing public lands administered by the Owyhee Resource Area over the next 20 years. The purpose of the RMP is to ensure public land use is planned for and managed on the basis of multiple-use and sustained yield in accordance with the Federal Land Policy and Management Act of 1976 (FLPMA).

The RMP, when approved, will replace land use planning decisions in the existing Owyhee Management Framework Plan (MFP), approved in 1981, which has guided BLM's management of public lands in the Owyhee Resource Area for the past 15 years. The MFP decisions that still have merit have been carried forward and are incorporated into this RMP effort. During the past 15 years resource conditions and public demands have changed sufficiently to warrant revisiting the land use planning decisions for the Owyhee Resource Area.

PLANNING AREA

The Owyhee Resource Area, located in southwestern Idaho's Owyhee County, encompasses 1,779,405 acres. This total includes the following:

1,319,651 acres administered by BLM, Idaho
137,706 acres administered by the State of Idaho
322,048 acres of private lands

The area is bounded on the west by Oregon, on the south by Nevada, on the north by the Snake River and on the east by Castle Creek, Deep Creek, the Owyhee River, and the Duck Valley Indian Reservation. Most of the public lands are contiguous with only a few scattered or isolated parcels. See Map GEN-1 and LAND-1.

Recently the former Boise District changed its name to the Lower Snake River District. Owyhee Resource Area staff are within the Lower Snake River District which is located in the Boise Field Office in Boise, Idaho. Within this document there are several references to the Boise District. Where these Boise District references appear, they apply to the Lower Snake River District.

The resource area contains the northern extent of the Owyhee Mountain Range and lies within what is often referred to as the Columbia Plateau. The Columbia Plateau is an elevated plateau with mountains which are separated by canyons draining to the Pacific Ocean via the Snake and Columbia Rivers. This broad regional landform and vegetative classification is known as the Intermountain Sagebrush Province/Sagebrush Steppe Ecosystem.

The Sagebrush Steppe Ecosystem is widespread over much of southern Idaho, eastern Oregon and Washington, and portions of northern Nevada, California, and Utah. This ecosystem contains a large diversity in landform and vegetation types ranging from vast expanses of flat sagebrush covered plateaus to rugged mountains blanketed with juniper woodlands and grasslands.

PUBLIC PARTICIPATION

Public participation in the planning process began with publication of a Federal Register Notice of Intent to initiate a resource management plan in October 1989, and distribution of a scoping notice in November 1989. This was the public's opportunity to suggest concerns, needs and management opportunities for the BLM to consider during the preparation of the RMP. The scoping process also helps determine the range of actions, alternatives, and impacts that will be addressed in the EIS.

The scoping notice was sent to nearly 1,100 individuals, organizations and agencies including nearly 100 livestock permittees. The notice identified preliminary issues and general topics to be addressed in the RMP and solicited public comment on additional concerns. The notice also announced three public meetings that were held in Jordan Valley, Oregon, and in Marsing and Boise, Idaho in December of 1989.

The three public meetings were attended by over 100 people. The BLM also received 164 scoping letters from individuals, organizations and agencies. This high level of interest and participation generated many comments expressing concern with management of the public lands and what issues should be addressed in the Owyhee RMP. Public participation also occurred during development of the Planning Criteria and during the Wild and Scenic River study process which is incorporated into this planning effort.

Two groups also participated during the planning process by developing alternatives for the RMP. The Owyhee County Commissioners assisted by the Owyhee County Land Use Planning Committee submitted information from which Alternative B was developed.
The Desert Group, with membership representing the environmental and conservation oriented community, submitted information for the development of
Alternative D.

Proposed planning criteria were developed by the interdisciplinary team and sent to the public for review and comment in November 1990. A total of sixteen comment letters were received in response. The public comments were considered and appropriate revisions were made. The planning criteria were approved by the District Manager in February 1991.

PLANNING ISSUES

As a result of the scoping process, three comprehensive planning issues have been identified and are being carried forward into the RMP. The issues to be addressed in the RMP will focus on the following:

- land tenure adjustments (transfer of lands from Federal ownership)
- recreation management (including off-road vehicle use, wilderness, national wild, scenic and recreational rivers, recreation sites, and areas of critical environmental concern).
- vegetation management (including needs for livestock, wildlife, wild horses, water quality, riparian values, threatened and endangered species, and watershed protection)

Land Tenure Adjustment Issue:

Land ownership patterns within the resource area contain some areas of scattered tracts and intermingled ownerships. Such patterns present problems for the efficient management and utilization of public resources. The means to relieve such problems are through exchanges with other landowners, transfers to other agencies and public sale of identified tracts. Such actions can lead to potential conflicts with loss of resources or environmental values, use of resources and preservation
of resources.

Considerations in Resolving the Issue:

Which lands should be identified for transfer from Federal ownership through State exchange, sale, or private exchange? Which lands should be retained in public ownership because of high natural resource values or public use and not made available for any form of disposal, including exchange?

Recreation Management Issue:

As populations continue to grow in southwest Idaho, the demand for recreational opportunities is expanding dramatically. Increasing recreational use may require restriction on ORV use, setting aside fragile ecosystems and developing more recreation sites. River boating in the resource area is becoming popular. BLM has the opportunity to recommend river segments for wild, scenic, or recreational protection within the National Wild & Scenic River Systems. This could affect boating use and other uses of the river corridors.

Considerations in Resolving the Issues:

What types and levels of recreational use should be provided? What types of off-road restrictions are required to protect fragile ecosystems? Should BLM develop more campgrounds and generally improve recreation access opportunities? Should fragile or unique areas be designated for special management? How should public lands be managed within river corridors that are eligible for national wild, or scenic or recreational designation?

Vegetation Management Issue:

Forage for wildlife, wild horses, and livestock needs to be balanced against watershed and soil protection requirements. Grazing management practices prescribed in preceding land use plans (Owyhee and Bruneau-Kuna Grazing EISs and Management Framework Plans (MFP)) have not been fully implemented, and it now appears that they cannot be implemented within a reasonable timeframe. Existing management decision documents do not adequately address recent shifts in wildlife populations or concerns over water quality and riparian conditions. To accommodate these concerns it may be necessary to revise some forage and land use allocations. Revisions have the potential for conflicts over the use or preservation a resources.

Considerations in Resolving the Issue:

What changes are needed in the grazing management program identified in the Owyhee Grazing EIS/MFP and Bruneau-Kuna EIS/MFP and where are they needed? Should there be a priority of some areas over others? If so, what areas should receive what priority and how should priorities be established?

Should BLM allocate forage for wildlife on public lands? If so, at what target population levels? What priority should wild horses receive in the forage allocation? How much annual vegetation production should be reserved for riparian system functions, soil protection and water quality improvement? How much should livestock grazing be changed to accommodate such modifications?

SPECTRUM OF DECISIONS

In order to address these three comprehensive issues and to meet Bureau requirements for deciding public land uses, decisions will be made on the following: air resources, soil resources, water resources, vegetation (including noxious weeds), riparian areas, forestry management (including juniper woodlands), wildlife habitat, fishery habitat, special status species (including threatened and endangered species), wild horse management, livestock grazing management, fire management, lands (including tenure adjustments and rights-of-way), locatable minerals, fluid minerals, mineral materials, recreation (including wild and scenic rivers), wilderness, visual resources, cultural resources, hazardous materials, and areas of critical environmental concern.

The supplemental program guidance (Bureau Manual 1600 series) issued under the Bureau Planning Regulations provides direction and establishes minimum, program specific content requirements for making decisions in the RMP.

PLANNING CRITERIA

This step in the planning process provides for the development of planning criteria. Planning criteria influence all aspects of the planning process including inventory and data collection, formulation of alternatives, estimation of effects, and selection of the preferred alternative and RMP. Planning criteria can be in the form of limits or constraints, or they can be statements of goals or standards to be achieved.

Planning Criteria do the following:

- streamline the plan's preparation and put it into focus;
- establish standards, rules, and measures to be used in the process;
- guide development of the RMP to ensure that it is tailored to the issues;
- guide and direct the resolution of issues through the planning process;
- indicate factors and data that must be considered in making decisions.

The planning criteria were approved by the District Manager in February 1991.

General Planning Criteria:

The principles of multiple use and sustained yield will guide the land use decisions within the Owyhee Resource Area. However, all lands may not be open for all multiple uses. Some uses may be excluded on some lands to protect resource values either by law or regulation or by decision reached through the planning process. Site specific locations for range improvements and other structures will generally not be determined in the RMP. The RMP will be prepared using the most current and best available information. Only limited inventories for the purpose of gathering additional data will be conducted. The following general planning criteria will be considered in developing the Resource Management Plan (RMP) for the Owyhee Resource Area:

- Existing laws, regulations, and BLM policies;
- Plans, programs and policies of other Federal agencies, State and local governments, and Indian tribes;
- Public input;
- Quantity and quality of noncommodity resource values;
- Future needs and demands for existing or potential resource commodities and values;
- Past and present use of public and adjacent lands;
- Public benefits of providing goods and services relative to costs;
- Environmental impacts;
- Social and economic values;
- Public welfare and safety.

Program Planning Criteria:

In addition to the general criteria listed above, the following program-specific criteria will apply to individual program decisions:

Air Quality

Under the Clean Air Act, BLM administered lands were given a Class II air quality classification. This classification allows moderate deterioration associated with moderate, well-controlled industrial and population growth. All lands within the resource area will be managed under Class II standards unless they are reclassified by the State as provided for in the Clean Air Act.

Water Quality

Section 319 of the Clean Water Act obligates Federal agencies to be consistent with State Nonpoint Source Management Program Plans and relevant water quality standards. Section 313 requires compliance with State Water Quality Standards. BLM will incorporate applicable best management practices or other conservation measures for specific programs and activities into the RMP. Water quality will be maintained or improved in accordance with State and Federal standards.

Vegetation Management

Vegetation will be managed to achieve desired plant communities (considering the ecological site potential) that provide for: biodiversity; protection and restoration of native species; and non-consumptive uses including plant protection, visual quality and watershed protection. The desired plant communities will provide forage for livestock, wildlife, and wild horses.

Forage will be allocated for domestic livestock grazing on suitable rangeland based on multiple use and sustained yield.

Plant maintenance, watershed protection and stability, and wildlife habitat needs will be provided for.

Forage will be allocated to support wildlife at population levels based on multiple use and sustained yield objectives and through consultation with the Idaho Department of Fish and Game.

Forage will be allocated to wild horses sufficient to support the appropriate management level (AML).

Water quality will be given priority in all vegetation management decisions.

Prescribed fire and other treatment methods will be considered as management tools to manipulate vegetation.

Riparian Areas, Floodplains and Wetlands

Riparian areas, floodplains and wetlands will be managed to protect, improve and restore their natural functions to benefit water storage, groundwater recharge, water quality, and fish and wildlife values as reflected in Idaho Fish and Wildlife 2000. All management practices will be designed to maintain or improve the integrity of these high-priority values. The Idaho Riparian Policy will also be used to guide management actions.

Forest and Woodland Management

Except where closed by law or regulation, lands containing forest products such as firewood and Christmas trees will be available for harvest, subject to special restrictions to protect other resource values.

Noxious Weed Control

BLM will work with county governments to monitor the locations and spread of noxious weeds. BLM will control the occurrence and spread of noxious weeds on public lands where economically feasible and to the extent funds are available. Noxious weed control will be conducted in accordance with the integrated weed management guidelines and design features identified in the Northwest Area Noxious Weed Control Program EIS of 1985.

Threatened and Endangered Species

Management actions authorized, funded or implemented by BLM will be done so as not to jeopardize the continued existence of Federally listed threatened or endangered plant or animal species or result in the destruction or modification of critical habitat. State sensitive species and species proposed for Federal listing (candidate species) will be given the same consideration as listed species.

Wild Horses

Forage will be provided to support wild horses at levels established in accordance with the Wild and Free-Roaming Horses and Burros Act. Adjustments of the appropriate management level (AML) range will be based on monitoring to ensure a thriving natural ecological balance within the herd management areas (HMAs).

Livestock Management

Livestock utilization of public lands will be managed under the principles of multiple use and sustained yield. Livestock will be managed to improve public land resources, enhance productivity and stabilize the livestock industry dependent upon the public range over the long term.

Forage will be allocated for domestic livestock grazing on suitable rangeland based on multiple use and sustained yield objectives by allotment. Forage determinations made in the RMP will provide guidance for issuance of grazing decisions on individual allotments in accordance with applicable BLM regulations and policy. Decisions will be made on season of use, class of livestock and stocking levels.

Fire Management

Wildfires will be aggressively suppressed in all areas except where specifically identified to allow natural fire processes to occur. Fire suppression will be done using the least amount of surface disturbance. In wilderness study areas and in areas containing significant cultural or paleontological values, surface-disturbing fire suppression equipment will only be used to protect human life or property. Public lands and resources affected by fire will be rehabilitated in accordance with the multiple use objectives identified for the affected area, subject to BLM policies and available funding.

Land Tenure Adjustments

All public lands will be retained in Federal ownership unless determined that disposal of a particular parcel will serve the public interest. Lands may be identified for disposal by sale, exchange, or State indemnity selection. Lands identified for acquisition will be based on public benefits, management considerations and public access needs. Specific actions to implement the land tenure decisions made in the RMP will include full public participation.

Rights-of-way

Public lands will generally be available for transport-ation and utility rights-of-way except where specifically prohibited by law or regulation (such as wilderness study areas) and in areas specifically identified as avoidance and exclusion areas to protect high resource values.

Energy and Minerals

Except where specifically withdrawn to protect resource values, public lands will be available for energy and mineral exploration and development based upon applicable regulations and Federal and State laws. Mitigation measures will be developed to protect resource values.

Recreation

The public lands will be managed to enhance recreation opportunities and visual resources. Recreation 2000 will be used as a guide in developing recreation opportunities. All lands will be identified as being within either special recreation management areas (SRMAs) or extensive recreation management areas (ERMAs). Some areas may be subject to special measures to protect resources or reduce conflicts among uses. BLM may develop and maintain various recreation facilities on the public lands including campgrounds, picnic areas and boat launches.

Motorized Vehicle Use

All public lands will be designated as open, limited, or closed to off-highway vehicles. Public safety, resource protection, user access needs and conflict resolution will be considered in making these decisions.

National Wild and Scenic Rivers System

All rivers and streams in the Owyhee Resource Area, including those on the Nationwide River Inventory, will be evaluated for potential addition to the National Wild and Scenic Rivers System. The evaluation will be done in accordance with the guidelines published by the Secretaries of Interior and Agriculture on September 7, 1982, and other current applicable guidance.

Wilderness Recommendations

BLM wilderness recommendations developed during previous wilderness evaluation efforts will be carried forward into the RMP. Any additional BLM wilderness "suitable" recommendations developed during the RMP will be in accordance with the criteria and quality standards identified in the BLM Wilderness Study Policy; Policies Criteria and Guidelines for Conducting Wilderness Studies on Public Lands.

Cultural, Geological, Paleontological and Cave Resources

Cultural, geological, paleontological and cave resources will be managed to maintain or enhance significant scientific, educational and recreational values. Cultural sites that meet National Register criteria will be protected and nominated for inclusion on the register.

Areas of Critical Environmental Concern (ACEC)

Areas of Critical Environmental Concern (ACECs) are defined by the Federal Land Policy and Management Act (FLPMA) as: "Areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards." ACECs may be designated in areas where both criteria of "relevance" and "importance" as defined in the BLM planning regulations are met.

PLAN AMENDMENT FOR NORTHERN MALHEUR MANAGEMENT FRAMEWORK PLAN (MFP), OREGON

Consideration for designating 775 acres of public land administered by the BLM, Vale District in Oregon as an ACEC is also addressed in this planning effort. This area in Oregon is contiguous with the 1,618 acre Coal Mine Basin area in Idaho which is also being considered for ACEC designation. Designation of this area in Oregon as an ACEC requires amending the Northern Malheur Management Framework Plan which was prepared by the Vale District. All documentation for amending the Northern Malheur MFP is incorporated into this planning effort.

RECENT LEGISLATION

Public Law 103-64 was passed by Congress and signed into law on August 4, 1993. This law established the 482,457 acre Snake River Birds of Prey National Conservation Area (SRBOPNCA); 57,109 public land acres are within the Owyhee Resource Area. Section 3.(a)(2) states "The purposes for which the conservation area is established, and shall be managed, are to provide for the conservation, protection, and enhancement of raptor populations and habitats and the natural and environmental resources and values associated therewith, and of the scientific, cultural, and educational resources and values of the public lands in the conservation area." These purposes have been incorporated into the management objectives for this area.

The law set forth specific land use management directives for the conservation area. The law specifically withdrew the Federal lands within the conservation area from all forms of entry, appropriation, application, selection and disposal except for voluntary land exchanges which would resolve ownership related land use conflicts within the conservation area. The law also withdrew the Federal lands from location under the mining laws, the operation of the mineral and geothermal leasing laws, and the mineral material disposal laws, except that mineral materials subject to disposal may be made available from existing sites. These mandates are reflected in all alternatives in the Owyhee RMP.

STANDARDS AND GUIDELINES – DEPARTMENT OF THE INTERIOR REGULATIONS

The Secretary of the Interior promulgated amendments (final rules) to the following regulations pertaining to livestock grazing on public lands administered by the Bureau of Land Management: 43 CFR Part 4 - Department Hearings and Appeals Procedures; 43 CFR Part 1780 - Cooperative Relations; and 43 CFR Part 4100 - Grazing Administration-Exclusive of Alaska.

The above final rules were published in the Federal Register on February 22, 1995 and became effective on August 21, 1995.

Sections 4180.1 and 4180.2 of 43 CFR Part 4100 address "Fundamentals of rangeland health" and "Standards and guidelines for grazing administration", respectively.

The Idaho State Director of the Bureau of Land Management, in consultation with the resource advisory councils established under 43 CFR Part 1780, Subpart 1784, is now in the process of developing standards and guidelines to be applied to livestock grazing. In the absence of newly developed standards and guidelines, fallback standards and guidelines have been identified in the regulations.

A preliminary analysis of the fallback standards and guidelines compared with the agency preferred alternative in this document, Alternative C, found that the agency preferred alternative is in conformance with the fallback standards and guidelines.

When the new standards are approved, they will also be analyzed with the preferred alternative. Adjustments, if necessary to bring the preferred alternative into conformance with those standards and guidelines, will then be made.

CONSISTENCY WITH OTHER PLANS

The Bureau planing regulations found at 43 CFR Part 1610.3-2 (a) and (b) state that resource management plans shall be consistent with officially approved or adopted resource related plans, policies and programs of other Federal agencies, State and local governments and Indian tribes, so long as the plans are also consistent with the purposes, policies and programs of Federal laws and regulations applicable to public lands, including Federal and State pollution control laws as implemented by applicable Federal and State air, water, noise, and other pollution standards or implementation plans.

This draft plan/EIS presents several alternatives. Each alternative represents a particular perspective on how the public lands and resources would be managed. It is likely that portions of some alternatives are inconsistent with portions of plans, policies or programs of other Federal agencies, State or local governments or Indian tribes. Therefore, this draft document is being circulated to ensure the opportunity for these interests to identify where such inconsistencies exist and to suggest ways in which they can be resolved.

BRUNEAU MANAGEMENT FRAMEWORK PLAN

The Bruneau Resource Area adjoins the eastern side of the Owyhee Resource Area. The Owyhee River, Deep Creek and Castle Creek form the boundary. Some Special Recreation Management Areas (SRMAs) encompass lands in both resource areas and are managed as a unit. No changes in management direction for these lands within the Bruneau Resource Area have been identified.

OBJECTIVE DEVELOPMENT

Objectives were developed to address the future desired condition or status of the various resources. The objectives are based on law and regulation and reflect the direction that public land management is projected to follow in the future. They were modified and adjusted to apply more specifically to the Owyhee Resource Area and are constant throughout all alternatives. The environmental impacts of the alternatives are measured against meeting the objectives.

An objective is an expression of the desired end result of management efforts. Objectives are described so that the expected results are clearly stated, specific, measurable and realistic. Measurability, where appropriate, is expressed in terms of physical units and quality classes. Timeframes have been incorporated where applicable.

In some instances, an objective and its associated management actions and allocations may apply to only one of the three geographic reference areas that have been identified for the Owyhee Resource Area. For purposes specific to this Owyhee RMP effort, geographical reference areas (GRAs) have been identified and are defined as areas of land with relatively similar climatic and geographic characteristics, resource values and conditions, opportunities for management and capability for resource response to management. Three geographical reference areas have been identified within the Owyhee Resource Area for this RMP effort: the Snake River GRA, the Jordan Creek GRA and the Owyhee River GRA. Boundaries were selected to include the greatest number of common resource conditions, concerns and opportunities. The boundaries are not fixed and may be adjusted based on additional information. See Map LAND-2 for the approximate boundaries.

ALTERNATIVE DEVELOPMENT

Development of alternatives for the Owyhee RMP was guided by the National Environmental Policy Act (NEPA), the BLM resources management planning regulations and the Idaho Guidebook for preparing the RMPs. These directives require that alternatives be developed to address issues.

The basic goal for developing alternatives for the RMP is to prepare different combinations of resource uses to address each issue and management concern, and to resolve the identified conflicts. A range of resource management intensities and allocations was developed for those resources that were issue related. Non-issue related resource uses, which had only minor or no conflicts in use levels or management intensity, have only small or no differences between the alternatives.

Each alternative must meet the standards (criteria) as outlined in the "Idaho Guidebook." These standards state that each alternative must be a complete resource management plan for the public lands within the planning area and must:

- be reasonable;
- provide for a balance of resource protection, management use and development;
- be responsive to the issues (each issue must be addressed in at least one alternative or subalternative); and
- meet BLM requirements (all required alternatives for range, wilderness, or other programs must be incorporated in at least one alternative or subalternative).

Four alternatives are described and analyzed in this RMP. As the alternatives were formulated the interdisciplinary planning team and other staff members considered the public input received during the planning process. All alternatives respond to the planning questions that have been asked about the respective issues. Several other alternatives were considered in addressing specific issues in the Owyhee Resource Area, but were dropped from further study. Among these were alternatives which promoted unconstrained production or protection, or targeted specific resources. Such alternatives were considered inappropriate because they failed to meet planning criteria for alternative formulation, one or more of the Federal Land Policy and Management Act of 1976 (FLPMA) planning criteria, or would be in direct violation of one or more Federal laws, regulations or agency policies.

ALTERNATIVES CONSIDERED IN DETAIL

Alternative A:

This is the "Current Management" Alternative and the "No Action" Alternative under NEPA regulations. This alternative is based on implementation of the Owyhee Management Framework Plan (MFP) approved in 1981 and is a continuation of present management. This alternative also incorporates the livestock grazing program decisions that were made based on the Owyhee Grazing EIS in 1983 and on those lands within the Owyhee Resource Area addressed in the Bruneau-Kuna Grazing EIS in 1984. This alternative generally satisfies most commodity demands of the public lands while mitigating impacts to sensitive resources on a limited basis. It includes a moderate level of range improvement projects and vegetation treatments. Livestock use levels would continue at present levels subject to adjustments when monitoring studies indicate a changing resource condition or trend has occurred.

Alternative B:

This alternative was developed through BLM staff interpretation and analysis of information submitted by the Owyhee County Commissioners with the assistance of the Owyhee County Land Use Planning Committee. This alternative emphasizes commodity development with limited protection of sensitive resources. It includes a moderate level of range improvement projects and a high level of vegetation treatments. Livestock grazing would be increased 11% from the current active preference.

Alternative C:

This alternative, the agency preferred alternative, was developed by the BLM Lower Snake River District interdisciplinary planning team. It identifies management actions that would work toward achieving the identified resource objectives within twenty years. This alternative emphasizes improvement in ecological conditions and protection of most of the sensitive resources. It includes a low level of range improvement projects and vegetation treatments. Livestock grazing would be reduced 35% from the current active preference.

Alternative D:

This alternative was developed through BLM staff interpretation and analysis of information submitted by the Desert Group, with membership representing the environmental and conservation oriented community. This alternative emphasizes improvement in ecological conditions and protection of sensitive resources with limited opportunities for commodity development. It includes no range improvement projects and a low level of vegetation treatments. Livestock grazing would be reduced 62% from the current active preference.

Chapter 2: Description of the Alternatives

This chapter describes the four alternatives that have been developed.

ALTERNATIVE A:

This is the "Current Management" Alternative and the "No Action" Alternative under NEPA regulations. This alternative is based on implementation of the Owyhee Management Framework Plan (MFP) approved in 1981 and is a continuation of present management. This alternative also incorporates the livestock grazing program decisions that were made based on the Owyhee Grazing EIS in 1983 and on those lands within the Owyhee Resource Area addressed in the Bruneau-Kuna Grazing EIS in 1984. This alternative generally satisfies most commodity demands of the public lands while mitigating impacts to sensitive resources on a limited basis. It includes a moderate level of range improvement projects and vegetation treatments. Livestock use levels would continue at present levels subject to adjustments when monitoring studies indicate a changing resource condition or trend has occurred.

ALTERNATIVE B:

This alternative was developed through BLM staff interpretation and analysis of information submitted by the Owyhee County Commissioners with the assistance of the Owyhee County Land Use Planning Committee. This alternative emphasizes commodity development with limited protection of sensitive resources. It includes a moderate level of range improvement projects and a high level of vegetation treatments. Livestock grazing would be increased 11% from the current active preference.

ALTERNATIVE C:

This alternative, the agency preferred alternative, was developed by the BLM Lower Snake River District interdisciplinary planning team. It identifies management actions that would work toward achieving the identified resource objectives within twenty years. This alternative emphasizes improvement in ecological conditions and protection of most of the sensitive resources. It includes a low level of range improvement projects and vegetation treatments. Livestock grazing would be reduced 35% from the current active preference.

ALTERNATIVE D:

This alternative was developed through BLM staff interpretation and analysis of information submitted by the Desert Group, with membership representing the environmental and conservation oriented community. This alternative emphasizes improvement in ecological conditions and protection of sensitive resources with limited opportunities for commodity development. It includes no range improvement projects and a low level of vegetation treatments. Livestock grazing would be reduced 62% from the current active preference.

This chapter also presents the objectives that have been adopted, the rationale for adopting them, the monitoring needed to measure progress toward achieving them and the management actions and allocations (decisions) prescribed to meet them. All of the objectives apply to the entire resource area unless stated otherwise.

The chapter is arranged by Resource (with a 4 letter code), by Objective (single digit number following 4 letter code). Each resource may have one or more objectives. The objectives are the same for all alternatives. The rationale for adopting the objective and the monitoring needed to evaluate progress at meeting the objective are identified for each objective. The management actions and allocations are listed in sequential order under each objective. Each objective may have one or more management actions or allocations.

In some instances, an objective and its associated management actions and allocations may apply to only one of the three geographic reference areas that have been identified for the Owyhee Resource Area. For purposes specific to this Owyhee RMP effort, geographical reference areas (GRAs) have been identified and are defined as areas of land with relatively similar climatic and geographic characteristics, resource values and conditions, opportunities for management and capability for resource response to management. Three geographical reference areas have been identified within the Owyhee Resource Area for this RMP effort: the Snake River GRA, the Jordan Creek GRA and the Owyhee River GRA. Boundaries were selected to include the greatest number of common resource conditions, concerns and opportunities. The boundaries are not fixed and may be adjusted based on additional information. See Map LAND-2 for the approximate boundaries.

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AIR RESOURCES

AIRQ 1: Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration regulations with all authorized actions.

Rationale: The Federal Clean Air Act and State of Idaho regulations require Federal agencies to meet or exceed air quality standards.

Monitoring:
Review of prescribed burn plan, pre-burn and post-burn calculations of acreage and tonnage on site.

Annual Work Plan (AWP) identification.

Maintain accurate records of both acreage and tonnage burned to date.

Periodic review of NEPA documentation.

Field review of compliance with mitigating measures.

1. Limit prescribed burning in juniper/sagebrush/grassland areas to approximately 9,000 acres (or the equivalent of 60,000 tons of fuels) per year. Limit individual prescribed burns to 3,000 acres with a 72 hour interval before any new burn actions.

2. Limit unnecessary emissions from existing and new point and nonpoint sources by requiring and implementing Best Management Practices (BMPs).

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Obtain a determination from appropriate agencies of the maximum tonnage per burning event allowable under air quality standards. 2. Conduct prescribed burning at maximum allowed by Clean Air Act and State regulations until back log of prescribed burns needed to restore appropriate native vegetation is eliminated. 3. Limit unnecessary emissions from existing and new point and nonpoint sources through development and implementation of Best Management Practices (BMPs).	1. Limit prescribed burning in juniper/sagebrush/grassland areas to approximately 9,000 acres (or the equivalent of 60,000 tons of fuels) per year. Limit individual prescribed burns to 3,000 acres with a 72 hour interval before any new burn actions. 2. Limit unnecessary emissions from existing and new point and nonpoint sources by requiring and implementing Best Management Practices (BMPs).	1. Limit prescribed burning in juniper/sagebrush/grassland areas so prescribed burns, in addition to known natural fires, do not exceed 9,000 acres (or equivalent of 60,000 tons of fuel) per year. Limit individual prescribed burns to 3,000 acres with a 72 hour interval before any new burn actions. Prescribed burning will focus on improving highly degraded areas for the purpose of improving these lands primarily for wildlife and native vegetation values. 2. Limit emissions from existing and new point and nonpoint sources by requiring/ implementing Best Management Practices (BMPs). 3. Manage to ensure that National Ambient Air Quality Standards and Prevention of Significant Deterioration regulations are being met or exceeded. 4. Manage WSA lands and Section 202 study lands as Class I designated geographical areas with respect to meeting or exceeding Prevention of Significant Deterioration regulations so these areas will remain substantially natural in character, retain outstanding opportunities for solitude and/or primitive recreation experiences, and support supplemental wilderness values.

OBJECTIVE	ALTERNATIVE A
SOIL RESOURCES **SOIL 1:** Improve unsatisfactory and maintain satisfactory watershed condition on lands above 3,500 feet elevation. **Rationale:** The BLM must comply with the Federal Land Policy and Management Act, the Taylor Grazing Act, the Public Rangelands Improvement Act, the Clean Water Act, and other federal and state laws and regulations regarding watershed (rangeland/ecological) condition and water quality. Improving or maintaining watershed condition (soil stability) will benefit grazing, wildlife, recreation, fishery and water quality programs. **Monitoring:** Monitoring includes collection of actual use, utilization, trend, climate, and ecological site inventory data by various methods. See Appendix MONT-1 for details concerning procedures.	1. Manage native perennial range to maintain or increase the level of aerial cover and species diversity that is representative of a late seral stage.

ALTERNATIVE B

1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Establish and implement controls of all noxious weeds and other invasion species which would negatively impact watershed function.

3. Develop and implement an aggressive juniper abatement and control plan for juniper invasion sites.

(contd)

ALTERNATIVE C

1. Manage native perennial range to maintain or increase the level of aerial cover and species diversity that is representative of a late seral stage.

2. Within two years, approve and implement grazing systems designed to improve riparian condition in all pastures containing riparian areas categorized as unsatisfactory, nonfunctioning, or functional-at risk. Beyond two years in the absence of an approved and implemented grazing system, no livestock use will be authorized beyond July 15 in any year in these pastures. This management action applies to all pastures where professional judgement, inventory data, or monitoring data have indicated the presence of the above condition categories regardless of their size or the relative sizes of the riparian area and the pasture. Future inventory or monitoring may indicate additional pastures to which this management action will apply. Future monitoring may also result in an adjustment to the July 15 date. See Appendix LVST-1 and Table RIPN-1 for affected allotments and Table LVST-C for grazing systems. See Map RIPN-3 for riparian condition.

3. In pastures where the July 15 end-of-grazing-season constraint has been invoked, streambank trampling damage occurring in the current year will not exceed 25% of the linear length of the streambanks (eg. 100 linear feet of stream has 200 feet of

(contd)

ALTERNATIVE D

1. Manage native perennial range to maintain or increase the level of aerial cover and species diversity that is representative of a late seral stage; in part through adjustments in livestock grazing and OHMV use as described in the Livestock Grazing Management and Recreation sections.

2. In the absence of an approved and implemented grazing system designed to provide for satisfactory and functional riparian/wetland areas, immediately eliminate livestock grazing by July 15th, or earlier if necessary, in all pastures with riparian/wetland areas to meet resource objectives, regardless of the size of riparian/wetland areas and regardless of the monitoring status of the pasture. See Appendix LVST-1 and Table RIPN-1 and RIPN-2 for affected allotments and Table LVST-D for livestock grazing systems.

3. A minimum stubble height of 6 inches will be present on all riparian areas at the end of the growing season.

4. Manage native perennial range to limit soil loss to a sustainable rate as identified through the use of appropriate predictive technologies.

5. Develop goals for interim progress of reductions of accelerated soil loss. Review on five-year intervals over a period of 20 years. If progress is incompatible with reaching the reductions of accelerated soil loss

(contd)

OBJECTIVE	ALTERNATIVE A
SOIL 1 (contd)	
SOIL 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted). **Rationale:** The BLM must comply with the Federal Land Policy and Management Act, the Taylor Grazing Act, the Public Rangelands Improvement Act, the Clean Water Act, and other federal and state laws and regulations regarding watershed (rangeland/ecological) condition and water quality. Improving or maintaining watershed condition (soil stability) will benefit grazing, wildlife, recreation, fishery and water quality programs. **Monitoring:** Monitoring includes collection of actual use, utilization, trend, climate, and ecological site inventory data by various methods. See Appendix MONT-1 for details concerning procedures.	1. Continue livestock grazing season-of-use as specified in Table LVST-A.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	streambanks of which no more than 50 feet will sustain trampling damage). In addition, an overwinter herbaceous stubble will be left in all streamside riparian areas to provide for streambank and channel stability, improved vegetation composition and structure, and hydrologic function. This residual stubble will be a minimum of six inches in height and will consist of herbaceous riparian forage species. When these conditions are not met, adjustments in livestock numbers, access, and/or grazing season will be made.	goals in the allotted time, implement more aggressive adjustments in the causes of accelerated soil loss (i.e., livestock grazing and OHMVs) to meet the interim goals. Publish the evaluation and any revised plans to the public.
1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for *(contd)*	1. Adjust livestock grazing season-of-use as specified in Table LVST-C. 2. Within two years, approve and implement grazing systems designed to improve riparian condition in all pastures containing riparian areas categorized as unsatisfactory, nonfunctioning, or functional-at risk. Beyond two years in the absence of an approved and implemented grazing system, no livestock use will be authorized beyond July 15 in any year in these pastures. This management action applies to all pastures where professional judgement, inventory data, or monitoring data have indicated the presence of the above condition categories regardless of their size or the relative sizes of the riparian area and the pasture. Future inventory or monitoring may indicate *(contd)*	1. Manage native perennial range to maintain or increase the level of aerial cover and species diversity that is representative of a late seral stage; in part through adjustments in livestock grazing and OHMV use as described in the Livestock Grazing and Recreation sections. 2. In the absence of an approved and implemented grazing system designed to provide for satisfactory and functional riparian/wetland areas, immediately eliminate livestock grazing by July 15th, or earlier if necessary, in all pastures with riparian/wetland areas to meet resource objectives, regardless of the size of riparian/wetland areas and regardless of the monitoring status of the pasture. See Appendix LVST-1 and Table RIPN-1 and RIPN-2 for affected allotments and Table LVST-D for *(contd)*

ALTERNATIVE B

specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Establish and implement controls of all noxious weeds and other invasion species which would negatively impact watershed function.

3. Develop and implement an aggressive juniper abatement and control plan for juniper invasion sites.

4. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.

ALTERNATIVE C

additional pastures to which this management action will apply. Future monitoring may also result in an adjustment to the July 15 date. See Appendix LVST-1 and Table RIPN-1 for affected allotments and Table LVST-C for grazing systems. See Map RIPN-3 for riparian condition.

3. In pastures where the July 15 end-of-grazing-season constraint has been invoked, streambank trampling damage occurring in the current year will not exceed 25% of the linear length of the streambanks (eg. 100 linear feet of stream has 200 feet of streambanks of which no more than 50 feet will sustain trampling damage). In addition, an overwinter herbaceous stubble will be left in all streamside riparian areas to provide for streambank and channel stability, improved vegetation composition and structure, and hydrologic function. This residual stubble will be a minimum of six inches in height and will consist of herbaceous riparian forage species. When these conditions are not met, adjustments in livestock numbers, access, and/or grazing season will be made.

ALTERNATIVE D

livestock grazing systems.

3. A minimum stubble height of 6 inches will be present on all riparian areas at the end of the growing season.

4. Manage native perennial range to limit soil loss to a sustainable rate as identified through the use of appropriate predictive technologies.

5. Develop goals for interim progress of reductions of soil loss above the sustainable rate. Review on five-year intervals over a period of 20 years. If progress is incompatible with reaching the reductions of accelerated soil loss goals in the allotted time, implement more aggressive adjustments in the causes of accelerated soil loss (i.e., livestock grazing and OHMVs) to meet the interim goals. Publish the evaluation and any revised plans to the public.

OBJECTIVE	ALTERNATIVE A
SOIL 3: Achieve stabilization of specific localized soil erosion problems (particularly streambanks). Reduce the potential for accelerated (human induced) erosion problems by utilizing Best Management Practices (BMPs). **Rationale:** The BLM must comply with the Federal Land Policy and Management Act, the Taylor Grazing Act, the Public Rangelands Improvement Act, the Clean Water Act, and other federal and state laws and regulations regarding watershed (rangeland/ecological) condition and water quality. Improving or maintaining watershed condition (soil stability) will benefit grazing, wildlife, recreation, fishery and water quality programs. **Monitoring:** Regular inspections of mineral related activities to assure compliance with plan of operation and permit stipulations. Periodic inspection of other surface disturbing activities.	1. Minimize soil erosion caused by surface disturbing activities through proper timing with regard to soil moisture content and range readiness. Avoid areas sensitive to soil compaction when range projects would result in livestock congregation (water developments, salting areas, gates, etc.). Adjust season-of-use in allotments or pastures sensitive to soil compaction to better protect the soil resource. 2. Prevent or control surface disturbing activities on soils with a high or very high erosion hazard rating by restricting OHMV use, grazing use, road building, timber/juniper harvest, and limiting mechanical range treatments and prescribed fires. 3. Restrict livestock grazing from riparian areas that are displaying moderate to severe bank stabilization problems until monitoring has determined that stabilization has been achieved.

ALTERNATIVE B

1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments.

Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improve-ment needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Minimize and mitigate soil erosion caused by surface disturbing activities on soils with a high or very high erosion hazard rating by including mitigation measures in plans for multiple recreation use, road building, timber harvest, mechanical range treatments,

(contd)

ALTERNATIVE C

1. Minimize soil erosion caused by surface disturbing activities through proper timing with regard to soil moisture content and range readiness. Avoid areas sensitive to soil compaction when range projects would result in livestock congregation (water developments, salting areas, gates, etc.). Adjust season-of-use in allotments or pastures sensitive to soil compaction to better protect the soil resource.

2. Prevent or control surface disturbing activities on soils with a high or very high erosion hazard rating by restricting OHMV use, grazing use, road building, timber/juniper harvest, and limiting mechanical range treatments and prescribed fires.

3. Within two years, approve and implement grazing systems designed to improve riparian condition in all pastures containing riparian areas categorized as unsatisfactory, nonfunctioning, or functional-at risk. Beyond two years in the absence of an approved and implemented grazing system, no livestock use will be authorized beyond July 15 in any year in these pastures. This management action applies to all pastures where professional judgement, inventory data, or monitoring data have indicated the presence of the above condition categories regardless of their size or the relative sizes of the riparian area and the pasture. Future inventory or monitoring may indicate additional pastures to which this

(contd)

ALTERNATIVE D

1. Minimize soil erosion caused by surface disturbing activities through proper timing with regard to soil moisture content and range readiness. Eliminate consideration of range projects for areas sensitive to soil compaction when range projects would result in livestock congregation (water developments, salting areas, gates, etc.). Adjust stocking levels and/or season-of-use in allotments or pastures sensitive to soil compaction to better protect the soil resource.

2. Prevent new and control existing surface disturbing activities on soils with high or very high erosion hazard rating by restricting or eliminating OHMV use, livestock grazing use, road building, juniper harvest, and eliminating mechanical range treatments and prescribed fire.

3. In the absence of an approved and implemented grazing system designed to provide for satisfactory and functional riparian/wetland areas, immediately eliminate livestock grazing by July 15th, or earlier if necessary, in all pastures with riparian/wetland areas to meet resource objectives, regardless of the size of riparian/wetland areas and regardless of the monitoring status of the pasture. See Appendix LVST-1 and Table RIPN-1 and RIPN-2 for affected allotments and Table LVST-D for livestock grazing systems.

(contd)

ALTERNATIVE B

prescribed fires and natural resource development. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.

3. Develop and implement a Management Plan for wild horses which will prevent and minimize surface disturbance erosion caused by the horses.

4. Develop and implement a Management Plan for wildlife by which consultation with appropriate wildlife control agencies will lead to prevention and minimization of erosion caused by wildlife.

5. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.

ALTERNATIVE C

management action will apply. Future monitoring may also result in an adjustment to the July 15 date. See Appendix LVST-1 and Table RIPN-1 for affected allotments and Table LVST-C for grazing systems. See Map RIPN-3 for riparian condition.

4. In pastures where the July 15 end-of-grazing-season constraint has been invoked, streambank trampling damage occurring in the current year will not exceed 25% of the linear length of the streambanks (eg. 100 linear feet of stream has 200 feet of streambanks of which no more than 50 feet will sustain trampling damage). In addition, an overwinter herbaceous stubble will be left in all streamside riparian areas to provide for streambank and channel stability, improved vegetation composition and structure, and hydrologic function. This residual stubble will be a minimum of six inches in height and will consist of herbaceous riparian forage species. When these conditions are not met, adjustments in livestock numbers, access, and/or grazing season will be made.

ALTERNATIVE D

4. Immediately eliminate livestock grazing from riparian areas displaying moderate to severe bank stabilization problems. Allow reintroduction of livestock grazing only after monitoring has determined stabilization has been achieved. Review livestock stocking levels and/or season-of-use before reintroduction to ensure future streambank stability.

5. Implement streambank stabilization projects in all areas with high to very high erosion hazard ratings.

6. Eliminate or drastically reduce livestock grazing on areas exhibiting unique soil erosion problems.

7. Improve watershed hydrologic function by implementing riparian management, protection and restoration efforts so at least 75% of riparian areas are in proper functioning ecological condition within 8 years of initiating the RMP. Obtain 90% in proper functioning ecological condition within 20 years.

8. Rehabilitate gullies on upland areas.

9. Livestock grazing management practices (e.g., Best Management Practices (BMPs)) will be implemented through terms and conditions of permits and leases so that streambank damage by livestock will be limited to less than 25% of the linear length of the streambanks (eg. 100 linear feet of stream has 200 feet of streambanks of which

(contd)

OBJECTIVE	ALTERNATIVE A
SOIL 3 (contd)	

no more than 50 feet will sustain trampling damage). If this limit is not sufficient to maintain stable streambanks throughout the length of the stream, reduce the percentage of allowable streambank damage to provide for long-term, stable streambanks.

10. A minimum stubble height of 6 inches will be present on all riparian areas at the end of the growing season.

11. Livestock grazing management practices (e.g., Best Management Practices (BMPs)) will be implemented through terms and conditions of permits and leases so that sufficient vegetation biomass and plant residue (including woody debris) remain to provide for adequate sediment filtering and dissipation of stream energy for bank protection.

12. Livestock grazing management structures within the normal high water line causing deterioration of aquatic areas (eg. dams, diversions, road crossings, etc.) will be removed or modified so deterioration is eliminated

OBJECTIVE	ALTERNATIVE A
WATER RESOURCES **WATR 1:** Meet or exceed State of Idaho water quality standards on all federally administered waters within the Owyhee Resource Area. **Rationale:** Federal government agencies are required to comply with all Federal, State, interstate and local requirements, administrative authority, and process and sanctions in respect to the control and abatement of water pollution. The Federal Water Pollution Control Act (Clean Water Act) of 1977, as amended, requires the restoration and maintenance of the chemical, physical, and biological integrity of the nations waters. **Monitoring:** Monitoring includes collection of utilization, trend, climate, and water quality data by various methods. See Appendix MONT-1 and Appendix WATR-2 for details concerning procedures.	1. Limit OHMV use in high erosion hazard watersheds, or watersheds where accelerated erosion is occurring. 2. Provide a minimum of two growing seasons rest from livestock grazing following fires.

ALTERNATIVE B

1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Develop and implement an aggressive juniper abatement and control plan for all juniper invasion sites.

3. Implement rangeland improvement programs as identified in the AMP process (See Management Action 1) and implement rangeland

(contd)

ALTERNATIVE C

1. Limit OHMV use in high erosion hazard watersheds, or watersheds where accelerated erosion is occurring.

2. Provide a minimum of two growing seasons rest from livestock grazing following fires.

3. Within two years, approve and implement grazing systems designed to meet or exceed State water quality standards in all pastures containing stream segments with year-round surface water and riparian areas categorized as unsatisfactory, nonfunctioning, or functional-at risk or where State water quality standards are not being met. Beyond two years in the absence of an approved and implemented grazing system, no livestock use will be authorized beyond July 15 in any year in these pastures. This management action applies to all pastures where professional judgement, inventory data, or monitoring data have indicated the presence of the above condition categories regardless of their size or the relative sizes of the riparian area and the pasture. Future inventory or monitoring may indicate additional pastures to which this management action will apply. Future monitoring may also result in an adjustment to the July 15 date. See Appendix LVST-1 and Table RIPN-1 for affected allotments, Table WATR-2 for affected streams and Table LVST-C for grazing systems. See Map RIPN-3 for riparian condition.

(contd)

ALTERNATIVE D

1. Adjust livestock grazing and OHMV use as described in the Livestock Grazing and Recreation sections for Alternative D.

2. Prevent new and control existing surface disturbing activities on soils with high or very high erosion hazard rating by restricting or eliminating OHMV use, livestock grazing use, road building, juniper harvest, and eliminating mechanical range treatments and prescribed fire.

3. After all fires, eliminate livestock grazing and OHMV use for a minimum of three calendar years and then evaluate suitability for reintroduction.

4. Improve watershed hydrologic function by implementing riparian management, protection and restoration efforts so at least 75% of riparian areas are in proper functioning ecological condition within 8 years of initiating the RMP. Obtain 90% in proper functioning ecological condition within 20 years.

5. A minimum stubble height of 6 inches will be present on all riparian areas at the end of the growing season.

6. Provide appropriate toilet/ sanitary facilities at appropriate designated recreation sites to minimize adverse impacts on water quality.

7. Livestock grazing management practices (e.g., Best Management Practices (BMPs))

(contd)

WATER 1 (contd)

ALTERNATIVE B

improvement programs to achieve multiple use resource objectives in coordination with the Owyhee County Interim Land Use Plan, including, but not limited to water developments, juniper/sagebrush control, rangeland restoration, and weed control.

4. Following wild or prescribed fire, Grazing Manage-ment Plans will be developed with close and considered consultation, coordination and cooperation with all affected permittees and affected landowners to provide for use of grazing animal management to enhance recovery.

5. Following fires, provide growing season rest which is adequate to provide for plant vigor recovery.

6. Minimize and mitigate soil erosion caused by surface disturbing activities on soils with a high or very high erosion hazard rating by including mitigation measures in plans for multiple recreation use, road building, timber harvest, mechanical range treatments, prescribed fires and natural resource development. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.

(contd)

ALTERNATIVE C

4. In pastures where the July 15 end-of-grazing-season constraint has been invoked, streambank trampling damage occurring in the current year will not exceed 25% of the linear length of the streambanks (eg. 100 linear feet of stream has 200 feet of streambanks of which no more than 50 feet will sustain trampling damage). In addition, an overwinter herbaceous stubble will be left in all streamside riparian areas to provide for streambank and channel stability, improved vegetation composition and structure, and hydrologic function. This residual stubble will be a minimum of six inches in height and will consist of herbaceous riparian forage species. When these conditions are not met, adjustments in livestock numbers, access, and/or grazing season will be made.

ALTERNATIVE D

will be implemented through terms and conditions of permits and leases, that maintain or restore water quality needed to protect and enhance beneficial uses and that meet or exceed State of Idaho water quality standards for the protection of and propagation of fish, shellfish, and wildlife; and provide for recreation in and on the water.

8. Developed springs, seeps, and perennial streams or other projects affecting water quality will be modified to protect water quality and enhance ecological values of those sites.

OBJECTIVE	ALTERNATIVE A
WATER 1 (contd)	
WATR 2: Follow current state water rights processes and procedures to acquire water rights for beneficial uses and support establishment of instream flows which are in the public interest. File for water use rights on all unclaimed waters within one year and newly developed water projects prior to construction. **Rationale:** The BLM is committed to acquire state water rights to guarantee future water availability for all public land activities and protest all water right applications by private individuals which may interfere with Bureau water rights. **Monitoring:** Annual review of new project files and minimum instream flows recommended.	1. Obtain water rights for all water development projects. 2. Protest all water right applications by private individuals which may interfere with Bureau water rights and BLM's mission. 3. Recommend establishment of minimum instream flows on all perennial streams managed by the BLM.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
7. Develop and implement a Management Plan for wild horses which will prevent and minimize surface disturbance erosion caused by the horses.		
8. Develop and implement a Management Plan for wildlife by which consultation with appropriate wildlife control agencies will lead to prevention and minimization of erosion caused by wildlife.		
1. Claim unappropriated water for domestic use.	1. Obtain water rights for all water development projects.	1. Obtain water rights for all water sources on BLM lands.
2. Consult and coordinate with affected persons engaged in multiple use of BLM administered lands regarding development of recommendation to IDWR as to minimum stream flow.	2. Protest all water right applications by private individuals which may interfere with Bureau water rights and BLM's mission.	2. Protest all water right applications by private individuals which concern water rights on Bureau lands or adversely affect Bureau water rights and BLM's mission.
	3. Recommend establishment of minimum instream flows on all perennial streams managed by the BLM.	3. Recommend to the State of Idaho establishment of minimum instream flows on perennial streams managed by the BLM within seven years.
		4. File in the name of the United States, and retain in public ownership, all water rights associated with water development on lands administered by or owned by the BLM within the Owyhee Resource Area.

OBJECTIVE

VEGETATION

VEGE 1: Achieve an ecological site condition (ESC) on upland habitats on federal lands within the Jordan Creek and Owyhee River geographic reference areas and those portions of the Snake River geographic reference area above 3,500 feet elevation of at least 40% in late seral and no more than 10% in early seral stage. (Altered ecological sites such as seedings and annual range excepted).

Rationale: The Public Rangelands Improvement Act of 1978 directs that the condition of the public rangelands be improved so that they become as productive as feasible for wildlife habitat and other rangeland values. The Federal Land Policy Management Act 1976 - Section 201(a) mandates that public lands be managed in a manner that will protect the quality of the ecological resources. The BLM is committed to maintaining and enhancing vegetation in terms of diversity and abundance of species and diversity of plant communities.

Monitoring: Monitoring includes collection of actual use, utilization, trend, climate, and ecological site inventory data by various methods. See Appendix MONT-1 for details concerning procedures.

ALTERNATIVE A

1. Adjust grazing management practices within the Jordan Creek and Owyhee River geographic reference areas and those portions of the Snake River geographic reference area above 3,500 feet elevation so that no more than 10% of the native vegetation condition is in an early seral stage and at least 40% is in the late seral or Potential Natural Community (PNC) stage. (Determined by ecological site inventory (ESI)). See Table LVST-A for livestock grazing systems, season-of-use and forage allocations and Table VEGE-2 for estimated ecological status.

2. Evaluate and mitigate potential significant adverse impacts of land exchanges, surface disturbing activities and vegetation treatment on vegetative diversity.

3. Apply approved weed control methods in an integrated plant management program to prevent the invasion of noxious weeds into areas presently free of such weeds and to improve the ecological status of sites which have been invaded by weeds. (Includes burning, mechanical, manual, biological, and chemical control methods as identified in the Vegetation Management EIS (USDI, BLM 1991)).

ALTERNATIVE B

1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB.

Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Develop and implement an aggressive juniper abatement and control plan for all juniper invasion sites.

3. Provide for suppression or control of all invasion plant species which would negatively impact watershed function.

(contd)

ALTERNATIVE C

1. Adjust grazing management practices within the Jordan Creek and Owyhee River geographic reference areas and those portions of the Snake River geographic reference area above 3,500 feet elevation so that no more than 10% of the native vegetation condition is in an early seral stage and at least 40% is in the late seral or Potential Natural Community (PNC) stage. (Determined by ecological site inventory (ESI)). See Table LVST-C for livestock grazing systems, season-of-use and forage allocations and Table VEGE-2 for estimated ecological status.

2. Evaluate and mitigate potential significant adverse impacts of land exchanges, surface disturbing activities and vegetation treatment on vegetative diversity.

3. Apply approved weed control methods in an integrated plant management program to prevent the invasion of noxious weeds into areas presently free of such weeds and to improve the ecological status of sites which have been invaded by weeds. (Includes burning, mechanical, manual, biological, and chemical control methods as identified in the Vegetation Management EIS (USDI, BLM 1991)).

ALTERNATIVE D

1. Adjust livestock grazing and OHMV use as described in the Livestock Grazing and Recreation sections.

2. Emphasize the establishment and maintenance of healthy native plant communities which are biologically diverse and vigorous.

3. Evaluate and mitigate potential significant adverse impacts of land exchanges, surface disturbing activities, OHMV use, livestock grazing use, juniper harvest, prescribed fire, road building and vegetation treatment on vegetative diversity.

4. Rely upon natural regeneration, seedings, and planting of native plants; eliminate use or introduction of nonnative vegetation.

5. Reduce fire suppression efforts to reintroduce the natural role of fire in ecosystem processes.

6. Rely upon biological and manual controls, and increased propagation of native plant species, as found in late seral and potential natural community stage, to displace noxious weeds. Chemical control may be used only when less intensive management practices have not produced the desired results, where target species are well defined, and where there is no risk to nontarget animal and plant species. Mechanical controls, such as chaining and discing, may not be used.

(contd)

OBJECTIVE	**ALTERNATIVE A**
VEGE 1 (contd)	

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
4. Develop and implement a Management Plan for wildlife by which consultation with appropriate wildlife control agencies will lead to prevention and minimization of erosion caused by wildlife.		7. Prohibit mechanical treatment of vegetation.
5. Develop and implement a management plan for wild horses which will minimize and prevent erosion caused by the horses.		
6. Following wild or prescribed fire, Grazing Management Plans will be developed with close and considered consultation, coordination and cooperation with all affected permittees and affected landowners to provide for use of grazing animal management to enhance recovery.		
7. Evaluate and mitigate significant adverse impacts of land exchanges, surface disturbing activities and vegetation manipulation.		
8. Apply State of Idaho approved noxious weed control methods in an integrated plant management program to prevent the invasion of noxious weeds into areas presently free of such weeds and to improve the ecological status of sites which have been invaded by weeds in coordination with the Owyhee County Weed Control Authority. (Includes burning, mechanical, manual, biological, and chemical control methods as identified in the Vegetation Management EIS (USDI, BLM 1991)).		

(contd)

OBJECTIVE	ALTERNATIVE A
VEGE 1 (contd)	
VEGE 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted). **Rationale:** The Public Rangelands Improvement Act of 1978 directs that the condition of the public rangelands be improved so that they become as productive as feasible for wildlife habitat and other rangeland values. The Federal Land Policy Management Act 1976 - Section 201(a) mandates that public lands be managed in a *(contd)*	1. Adjust overall grazing management practices on all lands below 3,500 feet elevation draining into the Snake River so that the percent cover of perennial grass species is increased to 15%. See Table LVST-A for livestock grazing systems, season-of-use and forage allocations and Table VEGE-2 for estimated ecological status. *(contd)*

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
9. Develop and implement a Management Plan by which multiple recreation uses can continue to occur compatibly with vegetation development. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups. Planning documents and/or other agreements which alter recreation use for purposes of vegetation development concerns must be formulated through consultation and cooperation with the Owyhee County Land Use Planning Committee, OHMV recreationist representative groups and BLM. 10. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.		
1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB. Livestock management alternatives and range	1. Adjust overall grazing management practices on all lands below 3,500 feet elevation draining into the Snake River so that the percent cover of perennial grass species is increased to 15%. See Table LVST-C for livestock grazing systems, season-of-use and forage allocations and Table	1. Adjust livestock grazing and OHMV use as described in the Livestock Grazing and Recreation sections. 2. Emphasize the establishment and maintenance of healthy native plant communities which are biologically diverse and vigorous.
(contd)	*(contd)*	*(contd)*

OBJECTIVE	ALTERNATIVE A
manner that will protect the quality of the ecological resources. The BLM is committed to maintaining and enhancing vegetation in terms of diversity and abundance of species and diversity of plant communities. **Monitoring:** Monitoring includes collection of actual use, utilization, trend, climate, and ecological site inventory data by various methods. See Appendix MONT-1 for details concerning procedures.	2. Evaluate and mitigate potential significant adverse impacts of land exchanges, surface disturbing activities and vegetation treatment on vegetative diversity. 3. Apply approved weed control methods in an integrated plant management program to prevent the invasion of noxious weeds into areas presently free of such weeds and to improve the ecological status of sites which have been invaded by weeds. (Includes burning, mechanical, manual, biological, and chemical control methods as identified in the Vegetation Management EIS (USDI, BLM 1991)).

ALTERNATIVE B

improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Establish and implement controls of all noxious weeds and other invasion species which would negatively impact watershed function.

3. Develop and implement an aggressive juniper abatement and control plan for juniper invasion sites.

4. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.

ALTERNATIVE C

VEGE-2 for estimated ecological status.

2. Evaluate and mitigate potential significant adverse impacts of land exchanges, surface disturbing activities and vegetation treatment on vegetative diversity.

3. Apply approved weed control methods in an integrated plant management program to prevent the invasion of noxious weeds into areas presently free of such weeds and to improve the ecological status of sites which have been invaded by weeds. (Includes burning, mechanical, manual, biological, and chemical control methods as identified in the Vegetation Management EIS (USDI, BLM 1991)).

ALTERNATIVE D

3. Evaluate and mitigate potential significant adverse impacts of land exchanges, surface disturbing activities, OHMV use, livestock grazing use, juniper harvest, prescribed fire, road building and vegetation treatment on vegetative diversity.

4. Rely upon natural regeneration, seedings, and planting of native plants; eliminate use or introduction of nonnative vegetation.

5. Reduce fire suppression efforts to reintroduce the natural role of fire in ecosystem processes.

6. Rely upon biological and manual controls, and increased propagation of native plant species, as found in late seral and potential natural community stage, to displace noxious weeds. Chemical control may be used only when less intensive management practices have not produced the desired results, where target species are well defined, and where there is no risk to nontarget animal and plant species. Mechanical controls, such as chaining and discing, may not be used.

7. Prohibit mechanical treatment of vegetation.

OBJECTIVE	ALTERNATIVE A
RIPARIAN-WETLAND AREAS **RIPN 1:** Improve all unsatisfactory, nonfunctioning, and functional-at risk categories and maintain all satisfactory and proper functioning condition riparian lands (stream, upland wet meadow and wetlands). **Rationale:** BLM Wildlife and Fisheries Management Manual Section 6500 directs the BLM to maintain the continued effectiveness of habitat improvements and to maintain and enhance important resident fisheries resources. BLM Manual Section 6840 directs BLM to ensure that the crucial habitats of sensitive animals will be managed and/or conserved to minimize the need for listing as Threatened or Endangered. The Federal Water Pollution Control Act (Clean Water Act) of 1977, as amended, requires the restoration and maintenance of the chemical, physical, and biological integrity of the nations waters. Water quality is directly related to the health of riparian ecosystems. **Monitoring:** Monitoring includes collection of utilization, trend, climate, and water quality data by various methods. See Appendix MONT-1 and Appendix WATR-2 for details concerning procedures.	1. Limit OHMV use in high erosion hazard watersheds, or watersheds where accelerated erosion is occurring. 2. Provide a minimum of two growing seasons rest from livestock grazing following fires. 3. Dispose of riparian/wetland areas only if property with greater riparian/wetland value is obtained in the public interest. 4. Acquire, where the owner is willing, riparian and wetland areas.

ALTERNATIVE B

1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Develop management plans for multiple recreation uses in high erosion hazard watersheds, or watersheds where accelerated erosion is occurring. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated

(contd)

ALTERNATIVE C

1. Limit OHMV use in high erosion hazard watersheds, or watersheds where accelerated erosion is occurring.

2. Provide a minimum of two growing seasons rest from livestock grazing following fires.

3. Dispose of riparian/wetland areas only if property with greater riparian/wetland value is obtained in the public interest.

4. Acquire, where the owner is willing, riparian and wetland areas.

5. Within two years, approve and implement grazing systems designed to improve riparian condition in all pastures containing riparian areas categorized as unsatisfactory, nonfunctioning, or functional-at risk. Beyond two years in the absence of an approved and implemented grazing system, no livestock use will be authorized beyond July 15 in any year in these pastures. This management action applies to all pastures where professional judgement, inventory data, or monitoring data have indicated the presence of the above condition categories regardless of their size or the relative sizes of the riparian area and the pasture. Future inventory or monitoring may indicate additional pastures to which this management action will apply. Future monitoring may also result in an adjustment to the July 15 date. See Appendix LVST-1 and Table RIPN-1 for affected allotments and Table LVST-C for

(contd)

ALTERNATIVE D

1. Adjust livestock grazing and OHMV use as described in the Livestock Grazing and Recreation sections.

2. Manage riparian/wetland areas following the goals, objectives, and strategies contained in BLM Riparian -Wetland Initiative for the 1990's.

3. Prevent new and control existing surface disturbing activities on soils with high or very high erosion hazard rating by restricting or eliminating OHMV use, livestock grazing use, road building, juniper harvest, and eliminating mechanical range treatments and prescribed fire.

4. After fires, eliminate livestock grazing and OHMV use for a minimum of three calendar years and then evaluate suitability for reintroduction.

5. Improve watershed hydrologic function by implementing riparian management, protection and restoration efforts so at least 75% of riparian areas are in proper functioning ecological condition within 8 years of initiating the RMP. Obtain 90% in proper functioning ecological condition within 20 years.

6. In the absence of an approved and implemented grazing system designed to provide for satisfactory and functional riparian/wetland areas, immediately eliminate livestock grazing by July 15th, or earlier if necessary, in all pastures with riparian/wetland areas to meet resource objectives, regardless of

(contd)

OBJECTIVE **ALTERNATIVE A**

RIPN 1 (contd)

through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.

3. Following wild or prescribed fire, Grazing Management Plans will be developed with close and considered consultation, coordination and cooperation with all affected permittees and affected landowners to provide for use of grazing animal management to enhance recovery.

4. Reassess riparian/wetland areas and dispose of those which are nonessential.

5. Develop site specific BMPs through AMPs for those waters which have been specifically identified and documented as not meeting beneficial use. BMPs include but are not limited to:

- Prescribed grazing systems
- Off site water development
- Shrub and juniper control
- Livestock salting plans
- Establishment of riparian pastures
- Herding

6. Develop management plans for wild horses and wildlife, by which consultation with appropriate control agencies will result in functional riparian areas.

7. Develop and implement an aggressive juniper abatement and control plan for all juniper invasion sites.

grazing systems. See Map RIPN-3 for riparian condition.

6. In pastures where the July 15 end-of-grazing-season constraint has been invoked, streambank trampling damage occurring in the current year will not exceed 25% of the linear length of the streambanks (eg. 100 linear feet of stream has 200 feet of streambanks of which no more than 50 feet will sustain trampling damage). In addition, an overwinter herbaceous stubble will be left in all streamside riparian areas to provide for streambank and channel stability, improved vegetation composition and structure, and hydrologic function. This residual stubble will be a minimum of six inches in height and will consist of herbaceous riparian forage species. When these conditions are not met, adjustments in livestock numbers, access, and/or grazing season will be made.

the size of riparian/wetland areas and regardless of the monitoring status of the pasture. See Appendix LVST-1 and Table RIPN-1 and RIPN-2 for affected allotments and Table LVST-D for livestock grazing systems.

7. A minimum stubble height of 6 inches will be present on all riparian areas at the end of the growing season.

8. Improve or restore both herbaceous and woody species where present or potential exists to a healthy and vigorous condition and facilitate the ability of vegetation to reproduce and maintain different age classes in the riparian, wetland and aquatic plant communities.

9. Dispose of riparian/wetland habitat only following an evaluation by a biologist and a property of greater habitat value and of similar type can be obtained in the public interest.

10. Acquire important riparian/wetland habitat through land purchase, exchanges, and/or other authorities.

11. If necessary to meet resource objectives, appropriate actions will be taken which may include the relocation or removal of livestock management facilities from riparian or wetland areas.

12. Livestock grazing management structures within the normal high water line causing deterioration of aquatic areas (e.g. dams, diversions, road crossings) will be removed or modified so deterioration is eliminated.

OBJECTIVE	ALTERNATIVE A
FORESTRY MANAGEMENT **FORS 1:** Manage Douglas-fir communities (about 36,200 acres) to emphasize forest health, vegetative diversity, wildlife and watershed values. **Rationale:** The Federal Land Policy Management Act 1976 - Section 102(a)(8) mandates that public lands be managed in a manner that will protect the quality of ecological resources. The BLM is committed to maintaining and enhancing vegetation in terms of diversity and abundance of species and diversity of plant communities. Douglas-fir communities are present on less than 3% of the public lands in the Owyhee Resource Area. Their retention in older age classes is critical to overall ecological balance, particularly in light of harvesting activities on intermingled State and private lands. **Monitoring:** Monitoring includes examination for tree pests such as the Douglas-fir tussock moth and site inspections to insure no unauthorized tree removals occur.	1. Classify all Douglas-fir forest lands (36,200 acres) as being unavailable for the management of forest products. Forest stands will be retained for biodiversity. Dead trees may be cut for salvage of fuelwood in response to safety concerns.
FORS 2: Use juniper harvesting to help achieve a desired plant community. **Rationale:** The Federal Land Policy Management Act 1976 - Section 201(a) mandates that public lands be managed in a manner that will protect the quality of ecological resources. The BLM is committed to maintaining and enhancing vegetation in terms of diversity and abundance of species and diversity of plant communities. Juniper harvesting is one of several methods available to control seral juniper encroachment into sagebrush-grassland ecological sites and manage the ecological balance of natural plant communities. **Monitoring:** Monitoring includes site inspections to insure compliance with the standard woodcutting stipulations such as stumpage height, layout perimeter, slash dispersal and cutting of unauthorized vegetation such as aspen or mountain mahogany. Monitoring also includes collection of data concerning the impacts of the woodcut on the understory vegetation. See Appendix MONT-1 for details concerning procedures for vegetation monitoring.	1. Manage harvest of western juniper woodlands in accordance with layout and cutting standards in the Owyhee Juniper Woodland Harvest Management Plan (USDI, BLM October 1987). See Table VEGE-4 and Map FORS-1.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Where dead and/or decadent trees need to be removed to improve forest health, authority will be given to harvest for lumber and/or salvage fuelwood. 2. Plan and implement reclamation of disturbed forest. 3. Plan and implement selective harvest.	1. Classify all Douglas-fir forest lands (36,200 acres) as being unavailable for the management of forest products. Forest stands will be retained for biodiversity. Trees will only be cut in response to forest health and safety concerns.	1. Classify all Douglas-fir forest lands (about 36,200 acres) as being unavailable for the management of forest products. Forest stands will be retained for biodiversity. No trees will be cut for any reason.
1. Develop and implement an aggressive juniper harvest program. 2. Manage harvest of western juniper woodlands in accordance with layout and cutting standards in the Owyhee Juniper Woodland Harvest Management Plan (1987). See Table VEGE-4 and Map FORS-1.	1. Manage harvest of western juniper woodlands in accordance with layout and cutting standards in the Owyhee Juniper Woodland Harvest Management Plan (USDI, BLM October 1987). See Table VEGE-4 and Map FORS-1.	1. Develop and implement an amended Owyhee Juniper Woodland Harvest Management Plan within two years to comply with the ORA Resource Management Plan. Where there is a conflict between the plans, interim management will be directed to protect the resource values identified in the Owyhee Resource Area Management Plan. 2. Manage the western juniper woodlands in accordance with an amended Owyhee Juniper Woodland Harvest Management Plan. Immediately add backcountry and primitive roadless SRMAs, canyons of all eligible Wild and Scenic Rivers, and all current and future designated ACECs to the restricted western juniper

(contd)

OBJECTIVE	ALTERNATIVE A
FORS 2 (contd)	
WILDLIFE HABITAT **WDLF 1:** Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of big game species within the Owyhee Resource Area including 1,246,000 acres of mule deer habitat, 50,000 + acres of elk habitat and 819,000 acres of pronghorn habitat. **Rationale:** Section 102.8 of Federal Land Policy and Management Act that it is policy of the United States that public lands be managed in a manner that will protect the quality of multiple resources and will provide food and habitat for fish and wildlife and domestic animals. The Public Rangelands Improvement Act (PRIA) directs improvement of rangeland conditions and provides for rangeland improvements including providing habitat for wildlife. The Memorandum of Understanding between the BLM and IDF&G states that the two agencies will work for the common purpose of maintaining, improving and managing wildlife resources on public lands. **Monitoring:** Monitoring includes collection of utilization, trend, and climate data to assess vegetation characteristics as they apply to wildlife species and wildlife habitat objectives. Additional monitoring includes use of appropriate techniques such as pellet group counts or breeding bird transects which are applicable to specific wildlife species. See Appendix MONT-1 for details concerning procedures for various methods. Periodically inspect/monitor authorized BLM activities including, but not limited to, range improvement projects, ROWs, OHMV use areas and woodcuts to insure compliance with wildlife stipulations and document observed habitat and animal disturbance.	1. Ensure that all activity plans include objectives for big game habitat, if present. 2. Adjust overall grazing management practices to maintain or improve big game habitat. 3. Limit deterioration of big game habitats and disturbance of big game populations by encouraging concentrated but limited OHMV use within the Owyhee Front OHV Management Area and disbursed, limited or open use throughout the remainder of the ORA. 4. Design and implement vegetation treatments to accommodate big game habitat requirements and to improve habitat where juniper or sagebrush density is contributing to unsatisfactory habitat conditions. 5. Limit adverse impacts of locatable and fluid mineral exploration and development and mineral materials disposal on big game habitat through inclusion of stipulations on mining notices, Plans of Operations and materials

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
		woodland cutting zone. See Table VEGE-4 and Map FORS-1. 3. Immediately provide a one-quarter mile "No Cutting Zone" around all WSAs and future designated wilderness lands. 4. Identify and protect old-growth juniper from deliberate destruction (such as from cutting or prescribed burns).
1. Consult with the Idaho Department of Fish and Game, all affected land owners, lessees and permittees to develop specific big game population targets and guidelines for future site specific management plans affecting big game habitat. 2. Develop a Management Plan for multiple recreation uses which will minimize and mitigate deterioration of big game habitats and disturbance of big game populations. Planning documents and/or other agreements which alter recreation use for purposes of wildlife population concerns must be formulated through consultation and cooperation with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups and BLM. 3. Design and implement vegetation treatments to accommodate big game habitat requirements and to improve habitat where juniper or sagebrush density is contributing to less-than-desirable or deteriorating habitat conditions. *(contd)*	1. Ensure that all activity plans include objectives for big game habitat, if present. 2. Adjust overall grazing management practices to maintain or improve big game habitat. Limit livestock use of key browse species to 30% within crucial deer winter habitat. 3. Limit habitat deterioration and disturbance to big game by managing OHMV use as specified in section Objective: RECT 1:, Alternative C, Action 1. 4. Design and implement vegetation treatments to accommodate big game habitat requirements and to improve habitat where juniper or sagebrush density is contributing to unsatisfactory habitat conditions. 5. Limit adverse impacts of locatable and fluid mineral exploration and development and mineral materials disposal on big game habitat through inclusion of stipulations on mining notices, Plans of Operations and materials leases. See Tables LOCM-C, FLUM-C and MMAT-C. *(contd)*	1. Incorporate and apply the goals, objectives, and implementation strategies for wildlife habitat contained in Fish and Wildlife 2000, Idaho Fish & Wildlife 2000, and Upland Game Bird Habitat Management - on the Rise within all activity plans. 2. Adjust overall livestock grazing management practices to maintain (good/excellent) and improve (poor/satisfactory) habitat for big game. Limit livestock use of key browse species to 20% annual forage production or less within crucial habitat for all big game. See Map WDLF-1. 3. Limit habitat deterioration and disturbance to big game by limiting OHMV use in big game habitat. See Maps WDLF-1, WDLF-2, WDLF-3 and RECT-1D. 4. Current and future identified crucial habitat for big game species will receive a high priority in all multiple use decisions. *(contd)*

OBJECTIVE	ALTERNATIVE A
WDLF 1 (contd)	leases. See Tables LOCM-A, FLUM-A and MMAT-A. 6. Ensure water availability for big game by providing safe access to all livestock waters, requiring that waters are left on following removal of livestock and constructing additional water developments where water is determined to be limiting. Ensure water is available at intervals of no more than three miles apart in pronghorn habitat. 7. Retain all public land within crucial and other high quality big game habitats and acquire additional high quality habitat through purchase or exchange with willing landowners. 8. Continue to protect and enhance deer winter habitat and other important big game habitats through strict adherence to and frequent updating of the Boise District Fire Suppression Plan. 9. Minimize barriers to big game movement by constructing new fences and modifying existing fences to meet Boise District Fence policy standards for the species present.

ALTERNATIVE B

4. Develop a Management Plan which provides for mitigation measures which allow for alteration or replacement of crucial big game habitat due to mining or exploration operations.

5. Construct additional water developments.

6. Plan for and implement prescribed burns to enhance big game habitat.

7. New fences must be constructed in accordance with Boise District Fence policy standards for the species present.

ALTERNATIVE C

6. Ensure water availability for big game by providing unrestricted access to all livestock waters, requiring that waters are left on following removal of livestock and constructing additional water developments where water is determined to be limiting. Ensure water is available at intervals of no more than three miles apart in big game habitat.

7. Retain all public land within crucial and other high quality big game habitats and acquire additional high quality big game habitat through purchase or exchange with willing landowners.

8. Continue to protect and enhance deer winter habitat and other important big game habitats through strict adherence to and frequent updating of the Boise District Fire Suppression Plan.

9. Minimize barriers to big game movement by constructing new fences and modifying existing fences to meet Boise District Fence Policy standards for the species present.

ALTERNATIVE D

5. Crucial migration corridors between winter and summer ranges for wildlife will receive high priority for protection and improvement.

6. Minimize barriers to big game movement by modifying existing fences to meet Boise District Fence Policy standards. Future fences must meet or exceed Boise District Fence Policy standards.

7. Rely on the role of naturally occurring fires for managing ecosystem processes to maintain (good/excellent) or improve (poor/satisfactory) big game habitat on the ORA. Reseed with a variety of native shrubs, forbs and grasses palatable to pronghorn and other native wildlife and eliminate livestock grazing on all burns and seedings for a minimum of three calendar years following treatment.

8. Ensure water availability for wildlife by improving existing water developments and watering troughs to provide safe utilization by wildlife to reduce/eliminate wildlife loss; require water to remain on and available to wildlife after the livestock grazing season; and construct new watering facilities solely for wildlife where water is a limiting factor.

9. Retain all lands providing high quality and/or important wildlife habitat in public ownership. Acquire additional habitat that will enhance the ecosystems in the ORA.

(contd)

OBJECTIVE	ALTERNATIVE A
WDLF 1 (contd)	
WDLF 2: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of upland game including 904,000 acres of sage grouse habitat, 547,000 acres of chukar habitat and 29,000 acres of pheasant habitat. **Rationale:** Section 102.8 of FLPMA states that it is policy of the United States that public lands be managed in a manner that will protect the quality of multiple resources and will provide food and habitat for fish and wildlife and domestic animals. The PRIA directs improvement of rangeland conditions and provides for rangeland improvements including providing habitat for wildlife. The Memorandum of Understanding (MOU) between the BLM and IDF&G states that the two agencies will work for the common purpose of maintaining, improving and managing wildlife resources on public lands. **Monitoring:** Monitoring includes collection of utilization, trend, and climate data to assess vegetation characteristics as they apply to wildlife species and wildlife habitat objectives. Additional monitoring includes use of appropriate techniques such as pellet group counts or breeding bird transects which are applicable to specific wildlife species. See Appendix MONT-1 for details concerning procedures for various methods. Periodically inspect/ monitor authorized BLM activities including, but not limited to, range improvement projects, ROWs, OHMV use areas and woodcuts to insure compliance with wildlife stipulations and document observed habitat and animal disturbance. Monitor Cooperative Farming Agreements annually to assess compliance with stipulations and determine effectiveness at meeting upland game and other wildlife habitat objectives.	1. Ensure that all activity plans include objectives for upland game habitat, if present. 2. Adjust overall grazing management practices to maintain or improve habitat for upland game, if present. 3. Limit deterioration of upland game habitats and disturbance to upland game populations by encouraging concentrated but limited OHMV use within the Owyhee Front OHV Management Area and disbursed, limited or open use throughout the remainder of the ORA. 4. Design and implement vegetation treatments to accommodate upland game habitat requirements and to improve habitat where juniper or sagebrush density is contributing to unsatisfactory habitat conditions. 5. Limit adverse impacts of locatable and fluid mineral exploration and development and mineral materials disposal on upland game habitat through inclusion of stipulations on mining notices, Plans of Operations and materials leases. See Tables LOCM-A, FLUM-A and MMAT-A. *(contd)*

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
		10. Limit adverse impacts of locatable and fluid mineral exploration and development and mineral materials sales on big game and big game habitat through inclusion of stipulations on mining notices, Plans of Operation and material leases. See Tables LOCM-D, FLUM-D and MMAT-D.
1. Consult with the Idaho Department of Fish and Game, all affected land owners, lessees and permittees to develop specific upland game population targets and guidelines for future site specific management plans affecting upland game habitat.	1. Ensure that all activity plans include objectives for upland game habitat, if present.	1. Incorporate and apply the goals, objectives, and implementation strategies for wildlife habitat contained in Fish and Wildlife 2000, Idaho Fish & Wildlife 2000, and Upland Game Bird Habitat Management – on the Rise within all activity plans.
2. Develop a Management Plan for multiple recreation uses which will minimize or mitigate deterioration of upland game habitats and disturbance of upland game populations. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.	2. Adjust overall grazing management practices to maintain or improve habitat for upland game, if present.	2. Adjust overall livestock grazing management practices to maintain (good/excellent) and improve (poor/satisfactory) upland game habitat. Limit livestock use of key forage species to 20% annual forage production or less within crucial habitat for all upland game. See Map WDLF-4 and WDLF-5.
3. Design and implement vegetation treatments to accommodate upland game habitat requirements and to improve habitat where juniper or sagebrush density is contributing to less-than-desirable habitat conditions.	3. Limit habitat deterioration and disturbance to upland game by managing OHMV use as specified in Objective: RECT 1:, Alternative C, Action 1.	3. Limit habitat deterioration and disturbance to upland game by limiting OHMV use in upland game bird habitat. See Maps WDLF-2 and RECT-1D.
	4. Design and implement vegetation treatments to accommodate upland game habitat requirements and to improve habitat where juniper or sagebrush density is contributing to unsatisfactory habitat conditions.	4. Current and future identified crucial habitat for upland game will receive a high priority in all multiple use decisions.
	5. Limit adverse impacts of locatable and fluid mineral exploration and development and mineral materials disposal on upland game habitat through inclusion of stipulations on mining notices, Plans of Operations and materials leases. See Tables LOCM-C, FLUM-C and MMAT-C.	5. Ensure water availability for wildlife by improving existing water developments and watering troughs to provide safe utilization
(contd)	*(contd)*	*(contd)*

OBJECTIVE	ALTERNATIVE A
WDLF 2 (contd)	6. Ensure water availability for upland game by providing safe access to all livestock waters, requiring that waters are left on following removal of livestock and constructing additional water developments where water is determined to be limiting. Develop guzzlers for upland game within suitable sites along the north face of the Owyhee Mountains. 7. Retain all public land within crucial and other high quality upland game habitats and acquire additional high quality habitat through purchase or exchange with willing landowners. Specifically, retain isolated tracts and perimeter lands adjacent to agricultural areas that provide crucial habitat for pheasant and gray partridge. 8. Provide protection of sage grouse nesting and wintering habitat and other important upland game habitats by continually updating and implementing the Boise District Fire Suppression Plan. 9. Protect and enhance habitat for upland game and other wildlife at developed springs and selected meadows, reservoirs and stream riparian habitats by fencing to exclude livestock. 10. Develop cooperative wildlife habitat/farming development (Sikes Act) agreements designed to enhance habitat for upland game and other wildlife.

ALTERNATIVE B

4. Develop a Management Plan which provides for mitigation measures which allow for alteration or replacement of crucial upland game habitat due to mining or exploration operations.

5. Construct additional water developments.

6. Provide all necessary maintenance for exclosure fences.

ALTERNATIVE C

6. Ensure water availability for upland game by providing safe access to all livestock waters, requiring that waters are left on following removal of livestock and constructing additional water developments where water is determined to be limiting. Develop guzzlers for upland game within suitable sites.

7. Retain all public land within crucial and other high quality upland game habitats and acquire additional high quality habitat through purchase or exchange with willing landowners. Specifically, retain isolated tracts and perimeter lands adjacent to agricultural areas that provide crucial habitat for pheasant and gray partridge and all public lands within two miles of active leks.

8. Provide protection of sage grouse nesting and wintering habitat and other important upland game habitats through strict adherence to and periodic updating of the Boise District Fire Suppression Plan.

9. Protect and enhance habitat for upland game and other wildlife at developed springs and selected wet meadows, reservoirs and stream riparian reaches by fencing to exclude livestock. Close all exclosures to livestock grazing for the life of this plan except where it is determined that controlled grazing is necessary to achieve a specific resource objective.

(contd)

ALTERNATIVE D

by wildlife to reduce/eliminate wildlife loss; require water to remain on and available to wildlife after the livestock grazing season; and construct new watering facilities solely for wildlife where water is a limiting factor.

6. Retain all lands providing high quality and/or important wildlife habitat in public ownership. Acquire additional habitat through purchase, exchange, and/or other authorities. Retain isolated tracts and perimeter lands adjacent to agricultural areas that provide crucial habitat for pheasant and gray partridge and all public lands within two miles of active or historical leks.

7. Limit adverse impacts of locatable and fluid mineral exploration and development and mineral materials sales on upland game and upland game habitat through inclusion of stipulations on mining notices, Plans of Operation and material leases. See Tables LOCM-D, FLUM-D and MMAT-D.

8. Implement management practices to maintain native vegetation at a minimum native grass height of 9 inches for effective Sage Grouse habitat in select areas. See Map WDLF-4.

9. Manage naturally occurring fires within sage grouse nesting and wintering habitat to balance desirable sage grouse habitat improvement with fire suppression standards of the Boise District FMAP.

(contd)

WDLF 2 (contd)

WDLF 3: Maintain satisfactory and improve unsatisfactory wetland/riparian habitat for waterfowl, furbearers and a diversity of other game and nongame species.

Rationale: Section 102.8 of FLPMA states that it is policy of the United States that public lands be managed in a manner that will protect the quality of multiple resources and will provide food and habitat for fish and wildlife and domestic animals. The PRIA directs improvement of rangeland conditions and provides for rangeland improvements including providing habitat for wildlife. The MOU between the BLM and IDF&G states that the two agencies will work for the common purpose of maintaining, improving and managing wildlife resources on public lands. In addition, Executive Order 11990 directs federal agencies to preserve and enhance the beneficial values of wetlands.

Monitoring: Monitoring includes collection of utilization, trend, and climate data to assess vegetation characteristics as they apply to wildlife species and wildlife habitat objectives. Additional monitoring includes use of appropriate techniques such as pellet group counts or breeding bird transects which are applicable to specific wildlife species. See Appendix MONT-1 for details concerning procedures for various methods. Periodically inspect/monitor authorized BLM activities including, but not limited to, range improvement projects, ROWs, OHMV use areas and woodcuts to insure compliance with wildlife stipulations and document observed habitat and animal disturbance.

1. Ensure that all activity plans include objectives for wetland/riparian habitat, if present.

2. Adjust overall grazing management practices to maintain or improve wetland/riparian habitat, if present.

3. Limit deterioration of wetland/riparian habitats and disturbance to dependent wildlife populations by encouraging concentrated but limited OHMV use within the Owyhee Front OHV Management Area and disbursed, limited or open use throughout the remainder of the ORA.

4. Design and implement vegetation treatments to enhance wetland/riparian habitat and to improve habitat where juniper or sagebrush density is contributing to unsatisfactory habitat conditions. Reseed with a variety of palatable shrubs, forbs and grasses and rest all burns and seedings from livestock grazing for a minimum of two years following treatment.

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	10. Develop cooperative wildlife habitat/farming development (Sikes Act) agreements designed to enhance habitat for upland game and other wildlife. 11. Evaluate and facilitate the introduction of additional wild turkeys into suitable habitat.	10. Protect and enhance habitat for upland game and other wildlife at developed springs and selected wet meadows, reservoirs and stream riparian reaches by fencing to exclude livestock. Close all exclosures to livestock grazing. 11. Develop cooperative agricultural agreements designed to enhance habitat for upland game and other wildlife.
1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each *(contd)*	1. Ensure that all activity plans include objectives for wetland/riparian habitat, if present. 2. Adjust overall grazing management practices to maintain or improve wetland/riparian habitat, if present. 3. Limit wetland/riparian habitat deterioration and disturbance to dependent wildlife by managing OHMV use as specified in Objective: RECT 1:, Alternative C, Action 1. 4. Design and implement vegetation treatments to maintain or enhance wetland/riparian habitat. Reseed, where necessary, with a variety of shrubs, forbs and grasses and rest all burns and seedings from livestock grazing for a minimum of two years following treatment. 5. Limit adverse impacts of locatable and fluid mineral exploration and development, and mineral materials disposal on wetland/riparian habitat through inclusion of stipulations on *(contd)*	1. Incorporate and apply the goals, objectives and implementation strategies contained in Fish and Wildlife 2000 and Riparian-Wetland Initiative for the 1990's within all activity plans. Provide special management attention to wetlands used by a diversity of wildlife. 2. Adjust livestock grazing use as described in the Livestock Grazing and Recreation sections to conserve habitat for wildlife. Limit habitat deterioration and disturbance to waterfowl, furbearers, and a diversity of other game and nongame species by limiting OHMV use in wetland/riparian habitats. See Map RECT-1D. 3. Current and future identified crucial wetland/riparian habitat for waterfowl, furbearers and a diversity of other game and nongame species will receive a high priority in all multiple use decisions. *(contd)*

OBJECTIVE	ALTERNATIVE A
WDLF 3 (contd)	5. Limit adverse impacts of locatable and fluid mineral exploration and development, and mineral materials disposal on wetland/riparian habitat through inclusion of stipulations on mining notices, Plans of Operations and materials leases. See Tables LOCM-A, FLUM-A and MMAT-A. 6. Retain all public land containing wetland/riparian habitats and acquire additional high quality habitat through purchase or exchange with willing landowners. Specifically, retain all public lands containing wetland/riparian habitat unless exchanging for habitat of equal or greater resource values. 7. Protect and enhance wetland habitat at developed springs and selected meadows, reservoirs and stream riparian habitats by fencing to exclude livestock. 8. Enhance waterfowl nesting habitat by ensuring waterfowl benefits are incorporated into all reservoirs exceeding one acre in size. Enhancement may include fencing, construction of nesting islands and other structures and planting food and cover species. 9. Limit livestock impacts on riparian habitat within the Crutcher's Crossing allotment (0593) by retaining the allotment in nongrazing status.

ALTERNATIVE B

allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Develop a Management Plan for multiple recreation uses which will minimize or mitigate deterioration of habitats and disturbance on populations. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.

3. Implement vegetation treatments to improve habitat where juniper or sagebrush density is contributing to less-than-desirable or deteriorating habitat conditions.

4. Protect or mitigate wildlife impacts in areas of mineral development in accordance with objectives and management practices outlined in an approved Plan of Operations and Reclamation Plan.

5. Where feasible and beneficial improve waterfowl nesting habitat in reservoirs exceeding five (5) acres in size.

6. Construct additional water developments.

7. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.

ALTERNATIVE C

mining notices, Plans of Operations and materials leases. See Tables LOCM-C, FLUM-C and MMAT-C.

6. Retain all public land containing wetland/riparian habitats and acquire additional high quality habitat through purchase or exchange with willing landowners. Specifically, retain all public lands containing wetland/riparian habitat unless exchanging for habitat of equal or greater resource values.

7. Protect and enhance wetland habitat at developed springs and selected wet meadows, reservoirs and stream riparian reaches by fencing to exclude livestock. Close all exclosures to livestock grazing for the life of this plan except where it is determined that controlled grazing is necessary to achieve a specific resource objective.

8. Enhance waterfowl nesting habitat by ensuring waterfowl benefits are incorporated into all reservoirs with the potential to support nesting waterfowl. Enhancement may include fencing, construction of nesting islands and other structures and planting food and cover species.

9. Protect and enhance riparian habitat within the Crutcher's Crossing allotment (0593) by closing the allotment to livestock grazing.

ALTERNATIVE D

4. Limit adverse impacts of locatable and fluid mineral exploration and development and mineral materials sales in wetland and riparian habitat through inclusion of stipulations on mining notices, Plans of Operation and material leases. See Tables LOCM-D, FLUM-D and MMAT-D.

5. Retain riparian/wetland habitat lands within public ownership. Acquire additional habitat through purchase, exchange, and/or other authorities.

6. Protect and enhance wetland habitats at and around developed or undeveloped springs, wet meadows, reservoirs, and riparian areas and adjacent stream sides. Close all exclosures to livestock grazing.

7. Enhance waterfowl nesting habitat by ensuring waterfowl benefits are incorporated into all reservoirs exceeding one acre in size. Enhancement may include fencing, construction of nesting islands, and/or other structures and planting native food and cover species.

8. Protect and enhance riparian habitat within the Crutcher's Crossing allotment (0593) by permanently closing the allotment to livestock grazing.

WDLF 4: Maintain satisfactory and improve unsatisfactory habitat for a large diversity of nongame wildlife on 1.3 million acres.

Rationale: Section 102.8 of FLPMA states that it is policy of the United States that public lands be managed in a manner that will protect the quality of multiple resources and will provide food and habitat for fish and wildlife and domestic animals. The PRIA directs improvement of rangeland conditions and provides for rangeland improvements including providing habitat for wildlife. The MOU between the BLM and IDF&G states that the two agencies will work for the common purpose of maintaining, improving and managing wildlife resources on public lands.

Monitoring: Monitoring includes collection of utilization, trend, and climate data to assess vegetation characteristics as they apply to wildlife species and wildlife habitat objectives. Additional monitoring includes use of appropriate techniques such as pellet group counts or breeding bird transects which are applicable to specific wildlife species. See Appendix MONT-1 for details concerning procedures for various methods. Periodically inspect/monitor authorized BLM activities including, but not limited to, range improvement projects, ROWs, OHMV use areas and woodcuts to insure compliance with wildlife stipulations and document observed habitat and animal disturbance.

1. Ensure that all activity plans include objectives for wildlife habitat including nongame species where applicable.

2. Adjust overall grazing management practices to maintain or improve habitat for nongame wildlife.

3. Limit deterioration of nongame wildlife habitats and disturbance to nongame wildlife populations by encouraging concentrated but limited OHMV use within the Owyhee Front OHV Management Area and disbursed, limited or open use throughout the remainder of the ORA.

4. Design and implement vegetation treatments to accommodate nongame wildlife habitat requirements and to improve habitat where juniper or sagebrush density is contributing to unsatisfactory habitat conditions. Reseed with a variety of palatable shrubs, forbs and grasses and rest all burns and seedings from livestock grazing for a minimum of two years following treatment.

5. Limit adverse impacts of locatable and fluid mineral exploration and development, and mineral materials disposal on nongame wildlife habitat through inclusion of stipulations on mining notices, Plans of Operations and materials leases. See Tables LOCM-A, FLUM-A and MMAT-A.

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.	1. Ensure that all activity plans include objectives for wildlife habitat including nongame species where applicable.	1. Incorporate and apply the goals, objectives and implementation strategies contained in Fish and Wildlife 2000 within all activity plans.
	2. Adjust overall grazing management practices to maintain or improve habitat for nongame wildlife.	2. Adjust livestock grazing use as described in the Livestock Grazing and Recreation sections to conserve habitat for wildlife. Limit habitat deterioration and disturbance to nongame wildlife by limiting OHMV use. See Map RECT-1D.
	3. Limit deterioration of nongame wildlife habitats and disturbance to nongame wildlife populations by managing OHMV use as specified in Objective: RECT 1:, Alternative C, Action 1.	3. Current and future identified crucial habitat for a large diversity of nongame wildlife will receive a high priority in all multiple use decisions.
	4. Design and implement vegetation treatments to maintain scarce, unique and highly productive nongame wildlife habitat types and retain large interconnected blocks of more common nongame wildlife habitat types. See Table WDLF-1. Reseed with a variety of shrubs, forbs and grasses, where necessary, and rest all burns and seedings from livestock grazing for a minimum of two years following treatment.	4. Limit adverse impacts of locatable and fluid mineral exploration and development and mineral materials sales on nongame wildlife and nongame wildlife habitat through inclusion of stipulations on mining notices, Plans of Operation and material leases. See Tables LOCM-D, FLUM-D and MMAT-D.
	5. Limit adverse impacts of locatable and fluid mineral exploration and development, and mineral materials disposal on nongame wildlife habitat through inclusion of stipulations on mining notices, Plans of Operations and materials leases. See Tables LOCM-C, FLUM-C and MMAT-C.	5. Ensure water availability for wildlife by improving existing water developments and watering troughs to provide safe utilization by wildlife to reduce/eliminate wildlife loss; require water to remain on and available to wildlife after the livestock grazing season; and construct new watering facilities solely for wildlife where water is a limiting factor.
(contd)	*(contd)*	*(contd)*

WDLF 4 (contd)

6. Ensure water availability for nongame wildlife by providing safe wildlife access to all livestock waters, requiring that waters are left on following removal of livestock and constructing additional water developments where water is determined to be limiting.

7. Retain all public land within crucial and other high quality habitats and acquire additional high quality habitat through purchase or exchange with willing landowners. Specifically, retain isolated tracts and perimeter lands of public land that are interspersed with agricultural lands and have the potential of providing cover and food for raptor prey species.

8. Protect raptor nests and manage adjacent vegetation to ensure adequate habitat for prey species. Allow no human caused disturbance within a 0.5 mile radius of any known active aerie between March 1 and August 15. Allow no habitat alteration within three miles of any prairie falcon or golden eagle aerie.

9. Ensure that all power poles on public land are designed to prevent raptor electrocution.

10. Ensure that management to maintain or improve habitat for raptors and their prey species receives priority consideration within the Snake River Birds of Prey National Conservation Area as detailed in the SRBOPNCA Management Plan.

ALTERNATIVE B

2. Develop a Management Plan for multiple recreation uses which will minimize or mitigate deterioration of nongame wildlife habitats and disturbance on nongame wildlife populations. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.

3. Implement vegetation treatments to improve habitat where juniper or sagebrush density is contributing to less-than-desirable or deteriorating habitat conditions.

4. Protect or mitigate wildlife habitat in areas of mineral development in accordance with objectives and management practices outlined in an approved Plan of Operations and Reclamation Plan.

5. Construct additional water developments.

6. Ensure that all power poles on BLM administered lands are designed to prevent raptor electrocution.

7. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.

ALTERNATIVE C

6. Ensure water availability for nongame wildlife by providing safe access to all livestock waters, requiring that waters are left on following removal of livestock and constructing additional water developments where water is determined to be limiting.

7. Retain all public land within crucial and other high quality nongame wildlife habitats and acquire additional high quality nongame wildlife habitat through purchase or exchange with willing landowners. Specifically, retain isolated tracts and perimeter lands of public land that are interspersed with agricultural lands and have the potential to provide cover and food for raptor prey species.

8. Protect raptor nests and manage adjacent vegetation to ensure adequate habitat for prey species. Allow no human caused disturbance within a 0.5 mile radius of any known golden eagle nest between February 1 and June 30 and other species' nests between March 15 and June 30. Disturbance is defined as any activity which could result in frequent flushing of adults or young, nest abandonment or significant loss of prey base.

9. Ensure that all power poles on public land are designed to prevent raptor electrocution.

(contd)

ALTERNATIVE D

6. Retain all public land within crucial and other high quality nongame wildlife habitats and acquire additional high quality nongame wildlife habitat through purchase, exchange, and/or other authorities. Retain and develop isolated tracts and perimeter lands that provide habitat adjacent to agricultural and urban areas.

7. Manage raptor habitat embodying the goals and objectives in Fish & Wildlife 2000.

8. Protect raptor nests and manage adjacent vegetation to ensure adequate habitat for prey species. Allow no disturbance within 0.5 mile radius of any known golden eagle nest between February 2 and June 30 and other species' nests between March 15 and June 30.

9. Ensure all future power poles on public lands are designed to prevent raptor electrocution. Evaluate redesign of existing power poles to prevent raptor electrocution.

10. Continue to develop, implement, and complete needed cooperative agreements with other government agencies to help solve nongame wildlife habitat problems within the ORA.

(contd)

WDLF 4 (contd)

FISHERY HABITAT

FISH 1: Improve unsatisfactory condition and maintain satisfactory condition habitat to support native fish so that all perennial streams are in satisfactory condition in 20 years.

Rationale: BLM Wildlife and Fisheries Management Manual Section 6500 directs BLM to maintain the continued effectiveness of habitat improvements and to maintain and enhance important resident fisheries resources. BLM Manual Section 6840 directs BLM to ensure that the crucial habitats of sensitive animals will be managed and conserved to minimize the need for listing as threatened or endangered under the Endangered Species Act. The Federal Water Pollution Control Act (Clean Water Act) of 1977, as amended, requires the restoration and maintenance of the chemical, physical, and biological integrity of the nations waters.

Monitoring: Monitoring includes collection of utilization, trend, climate, water quality and fish habitat data by various methods. See Appendix MONT-1 and Appendix WATR-2 for details concerning procedures.

1. Limit OHMV use in high erosion hazard watersheds and watersheds where accelerated erosion is occurring.

2. Provide a minimum of two growing seasons rest from livestock grazing following fires.

3. Dispose of aquatic/fishery habitat only if lands containing similar habitat of greater value can be obtained in the public interest.

4. Acquire, where the owner is willing, water rights, lands or easements to streams or sites where habitats currently support or can be developed to sustain aquatic species.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	10. Ensure that management to maintain or improve habitat for raptors and their prey species receives priority consideration within the Snake River Birds of Prey National Conservation Area as detailed in the SRBOPA Management Plan.	11. Ensure management to maintain (good/excellent) and improve (poor/satisfactory) habitat for raptors and their prey species receives priority consideration within the Snake River Birds of Prey National Conservation Area as detailed in the Snake River Birds of Prey Area Management Plan. Management actions in the current and subsequently approved Snake River Birds of Prey National Conservation Area Management Plan(s) will have precedence over the Owyhee Resource Area RMP within the boundary of the Snake River Birds of Prey National Conservation Area. 12. Prohibit all Animal Damage Control (Wildlife Services) activities within the ORA.
1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in *(contd)*	1. Limit OHMV use in high erosion hazard watersheds and watersheds where accelerated erosion is occurring. 2. Provide a minimum of two growing seasons rest from livestock grazing following fires. 3. Dispose of aquatic/fishery habitat only if lands containing similar habitat of greater value can be obtained in the public interest. 4. Acquire, where the owner is willing, water rights, lands or access to streams or sites where habitats currently support or can be developed to sustain aquatic species. *(contd)*	1. Adjust livestock grazing and OHMV use as described in the Livestock Grazing and Recreation sections for Alternative D to conserve fishery habitat. 2. Prevent new and control existing surface disturbing activities on soils with high or very high erosion hazard rating by restricting or eliminating OHMV use, livestock grazing use, road building, juniper harvest, and eliminating mechanical range treatments and prescribed fire. *(contd)*

OBJECTIVE	ALTERNATIVE A
FISH 1 (contd)	

ALTERNATIVE B

nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Develop Management Plans for multiple recreational uses in high erosion hazard watersheds, or watersheds where accelerated erosion is occurring. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.

3. Following wild or prescribed fires, Grazing Management Plans will be developed with close and considered consultation, coordination and cooperation with all affected permittees and affected landowners to provide for use of grazing animal management to enhance recovery.

4. Dispose of habitat areas which are nonessential or substantially unmanageable.

(contd)

ALTERNATIVE C

5. Within two years, approve and implement grazing systems designed to improve native fish habitat in all pastures containing stream reaches categorized as unsatisfactory, nonfunctioning, or functional-at risk riparian areas or unsatisfactory fish habitat. Beyond two years in the absence of an approved and implemented grazing system, no livestock use will be authorized beyond July 15 in any year in these pastures. This management action applies to all pastures where professional judgement, inventory data, or monitoring data have indicated the presence of the above condition categories regardless of their size or the relative sizes of the riparian area and the pasture. Future inventory or monitoring may indicate additional pastures to which this management action will apply. Future monitoring may also result in an adjustment to the July 15 date. See Appendix LVST-1 and Table RIPN-1 for affected allotments, Map RIPN-4 for affected pastures, and Table LVST-C for grazing systems. See Map RIPN-3 and FISH-1 for riparian and fish habitat condition.

(contd)

ALTERNATIVE D

3. After fires, eliminate livestock grazing and OHMV use for a minimum of three calendar years and then evaluate suitability for reintroduction.

4. Improve watershed hydrologic function by implementing riparian management, protection and restoration efforts so at least 75% of riparian areas are in proper functioning ecological condition within 8 years of initiating the RMP. Obtain 90% in proper functioning ecological condition within 20 years.

5. Expand and improve instream native fishery habitat by improving stream habitat on perennial and intermittent streams having the potential to sustain year-round native fisheries.

6. Purchase lands or easements, use land exchange, and/or other authorities to provide access to perennial streams or sites where habitats currently support or can be developed to sustain native aquatic species.

7. Dispose of aquatic/fishery habitat only following an evaluation by a biologist and when lands of greater value and similar habitat can be obtained in the public interest.

8. Livestock grazing management practices will be established which ensure the recovery of threatened or endangered species, prevent species listed by the U. S. Fish and Wildlife Service or National Marine Fisheries Service as category 1 or 2 from becoming

(contd)

OBJECTIVE **ALTERNATIVE A**

FISH 1 (contd)

ALTERNATIVE B

5. Develop site specific BMPs through allotment management plans for those waters which have been specifically identified and documented as not meeting beneficial use. BMPs include but are not limited to:
- Prescribed grazing systems
- Off site water development
- Shrub and juniper control
- Livestock salting plans
- Establishment of riparian pastures
- Herding

6. Develop and implement management plans for wild horses and wildlife, by which consultation with appropriate control agencies will support maintenance of fish habitat.

7. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.

ALTERNATIVE C

6. In pastures where the July 15 end-of-grazing-season constraint has been invoked, streambank trampling damage occurring in the current year will not exceed 25% of the linear length of the streambanks (eg. 100 linear feet of stream has 200 feet of streambanks of which no more than 50 feet will sustain trampling damage). In addition, an overwinter herbaceous stubble will be left in all streamside riparian areas to provide for streambank and channel stability, improved vegetation composition and structure, and hydrologic function. This residual stubble will be a minimum of six inches in height and will consist of herbaceous riparian forage species. When these conditions are not met, adjustments in livestock numbers, access, and/or grazing season will be made.

ALTERNATIVE D

threatened or endangered, and prevent other special status species from being considered for listing as under the Endangered Species Act.

9. Increase population levels of federal and state designated threatened, endangered, candidate, or sensitive aquatic and fishery species to levels where their existence is no longer threatened and there is no need for federal or state listing.

10. In the absence of an approved and implemented grazing system designed to provide for satisfactory and functional riparian/wetland areas, immediately eliminate livestock grazing by July 15th, or earlier if necessary, in all pastures with riparian/wetland areas to meet resource objectives, regardless of the size of riparian/wetland areas and regardless of the monitoring status of the pasture.
See Appendix LVST-1 and Table RIPN-1 for affected allotments and Table LVST-D for livestock grazing systems.

11. Recommend to the State of Idaho establishment of minimum instream flows on perennial streams managed by the BLM within seven years to protect fishery habitat.

12. Protest all water right applications which would degrade or adversely affect fishery habitat on BLM administered lands.

(contd)

FISH 1 (contd)

OBJECTIVE	ALTERNATIVE A
FISH 2: Improve reservoir fisheries, when appropriate, in consultation with state agencies and adjacent landowners. **Rationale:** BLM Wildlife and Fisheries Management Manual Section 6500 directs BLM to maintain the continued effectiveness of habitat improvements and to maintain and enhance important resident fisheries resources. BLM Manual Section 6840 directs BLM to ensure that the crucial habitats of sensitive animals will be managed and conserved to minimize the need for listing as threatened or endangered under the Endangered Species Act. The Federal Water Pollution Control Act (Clean Water Act) of 1977, as amended, requires the restoration and maintenance of the chemical, physical, and biological integrity of the nations water at a level of quality which provides protection for fish and wildlife. **Monitoring:** Monitoring includes collection of utilization, trend, climate, water quality and fish habitat data by various methods. See Appendix MONT-1 and Appendix WATR-2 for details concerning procedures.	1. Limit OHMV use in high erosion hazard watersheds and watersheds where accelerated erosion is occurring. 2. Provide a minimum of two growing seasons rest from livestock grazing following fires. 3. Acquire, where the owner is willing, land or easements to existing reservoirs or sites where habitats currently support or can be developed to sustain aquatic species.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
		13. In pastures where the July 15 end-of-grazing-season constraint has been invoked, streambank trampling damage occurring in the current year will not exceed 25% of the linear length of the streambanks (eg. 100 linear feet of stream has 200 feet of streambanks of which no more than 50 feet will sustain trampling damage). In addition, an overwinter herbaceous stubble will be left in all streamside riparian areas to provide for streambank and channel stability, improved vegetation composition and structure, and hydrologic function. This residual stubble will be a minimum of six inches in height and will consist of herbaceous riparian forage species. When these conditions are not met, adjustments in livestock numbers, access, and/or grazing season will be made.
1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix	1. Limit OHMV use in high erosion hazard watersheds and watersheds where accelerated erosion is occurring. 2. Provide a minimum of two growing seasons rest from livestock grazing following fires. 3. Acquire, where the owner is willing, lands or easements to existing reservoirs or sites where habitats currently support or can be developed to sustain aquatic species.	1. Adjust livestock grazing and OHMV use as described in the Livestock Grazing and Recreation sections to conserve habitat for wildlife. 2. Prevent new and control existing surface disturbing activities on soils with high or very high erosion hazard rating by restricting or eliminating OHMV use, livestock grazing use, road building, juniper harvest, and eliminating mechanical range treatments and prescribed fire.
(contd)	*(contd)*	*(contd)*

OBJECTIVE	ALTERNATIVE A
FISH 2 (contd)	

ALTERNATIVE B

LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Develop Management Plans for multiple recreational uses in high erosion hazard watersheds, or watersheds where accelerated erosion is occurring. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.

3. Following wild or prescribed fire, Grazing Management Plans will be developed with close and considered consultation, coordination and cooperation with all affected permittees and affected landowners to provide for use of grazing animal management to enhance recovery.

(contd)

ALTERNATIVE C

4. Within two years, approve and implement grazing systems designed to improve riparian habitat and/or native fish habitat in all pastures containing stream reaches or reservoirs categorized as unsatisfactory, nonfunctioning, or functional-at risk riparian areas or unsatisfactory fish habitat. In the absence of an approved and implemented grazing system, no livestock use will be authorized beyond July 15 in any year in these pastures. This management action applies to all pastures where professional judgement, inventory data, or monitoring data have indicated the presence of the above condition categories regardless of their size or the relative sizes of the riparian area and the pasture. Future inventory or monitoring may indicate additional allotments to which this management action will apply. See Appendix LVST-1 and Table RIPN-1 for affected allotments, Map RIPN-4 for affected pastures, and Table LVST-C for grazing systems. See Map RIPN-3 and FISH-1 for riparian and fish habitat condition.

5. In pastures where the July 15 end-of-grazing-season constraint has been invoked, soil trampling damage occurring in the current year will not exceed 25% of the linear length of the reservoir bank. In addition, an overwinter herbaceous stubble will be left in all riparian areas to provide for soil and channel stability, improved vegetation composition and structure, and hydrologic

(contd)

ALTERNATIVE D

3. After fires, eliminate livestock grazing and OHMV use for a minimum of three calendar years and then evaluate suitability for reintroduction.

4. Establish self-sustaining, native fisheries in all existing and future reservoirs of appropriate size.

5. Acquire through land purchase, exchange, and/or other authorities; water rights, lands or easements to existing reservoirs or sites where habitats currently support or can be developed to sustain native aquatic species or are crucial to the sustainability of important native aquatic species.

6. Livestock grazing management practices will be established which ensure the recovery of threatened or endangered species, prevent species listed by the U. S. Fish and Wildlife Service or National Marine Fisheries Service as category 1 or 2 from becoming threatened or endangered, and prevent other special status species from being considered for listing as under the Endangered Species Act.

7. Increase population levels of federal and state designated threatened, endangered, candidate, or sensitive aquatic and fishery species to levels where their existence is no longer threatened and there is no need for federal or state listing.

(contd)

FISH 2 (contd)

SPECIAL STATUS SPECIES

SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended. See Tables SPSS-1 and SPSS-2.

Rationale: Protection and recovery of threatened and endangered species is mandated under the Endangered Species Act of 1973, as amended. BLM Manual 6840 directs that BLM shall carry out management activities consistent with the principles of multiple-use for the conservation of proposed, candidate, BLM sensitive and State species of special concern species and their habitat. It also directs that BLM shall ensure that any activities authorized, funded or carried out do not contribute to the need to list any species.

Monitoring: Conduct population or habitat monitoring of special status species on a regular basis for selected species including but not limited to bald eagles, other raptors, bighorn sheep, and special status plants. Monitor key populations and habitats or population/ habitat objectives as identified in AIEs, AMPs or other activity plans. Appropriate techniques for special status species may be identified in the wildlife section of Appendix MONT-1 or additional techniques may be required or utilized.

1. Prepare, revise, and implement allotment plans (AMPs), recovery plans, and Habitat Management Plans (HMPs) to protect or improve habitat where conflicts or threats exist to ensure that objectives for special status plant and animal species are met.

2. Protect special status plant and animal species and habitats from impacts of surface disturbing activities, vegetation treatment and land tenure adjustments.

3. Limit deterioration of special status plant and animal species habitat by managing OHMV use as specified in RECT 1:1 for Alternative A.

4. Adjust livestock grazing management, where necessary, to maintain or enhance habitat for special status animal species. This may include development of livestock exclosures or restricted-

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
4. Develop habitat management plans for wild horses and wildlife, by which consultation with appropriate control agencies will support functional riparian areas. 5. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.	function. This residual stubble will be a minimum of six inches in height and will consist of herbaceous riparian forage species. When these conditions are not met, adjustments in livestock numbers, access, and/or grazing season will be made.	8. In the absence of an approved and implemented grazing system designed to provide for satisfactory and functional riparian/wetland areas, immediately eliminate livestock grazing by July 15th, or earlier if necessary, in all pastures with riparian/wetland areas to meet resource objectives, regardless of the size of riparian/wetland areas and regardless of the monitoring status of the pasture. See Appendix LVST-1 and Table RIPN-1 for affected allotments and Table LVST-D for livestock grazing systems.
1. In coordination with federal agencies and state and local government planning agencies, develop and implement an endangered and threatened species management plan which includes at least the following elements: a) Describes and documents endangered and threatened species which exist in the Owyhee Resource Area by specifically documenting the factor or factors specified in 16 U.S.C. §1533(a)(1) which characterize the species as either endangered or threatened. b) Describes and documents the significant portion of the natural "range of the species" in which the species is endangered or threatened because of the existence of a §1533(a)(1) factor or factors. c) Describes, reviews and evaluates conservation efforts	1. Prepare, revise, and implement allotment management plans (AMPs), recovery plans, and Habitat Management Plans (HMPs) to protect or improve habitat where conflicts or threats exist to ensure that objectives for special status plant and animal species are met. 2. Protect special status plant and animal species and habitats from impacts of surface disturbing activities, vegetation treatment and land tenure adjustments. 3. Limit deterioration of special status plant and animal species and their habitats by managing OHMV use as specified in RECT 1:1 for Alternative C. 4. Adjust livestock grazing management, where necessary, to maintain or enhance habitat for special status animal species.	1. Prepare, revise, and implement allotment management plans (AMPs), recovery plans, and Habitat Management Plans (HMPs) to protect and enhance habitat where conflicts or threats exist to ensure that objectives for special status plant and animal species are met. Ensure that all activity plans have objectives for special status species where they are present. 2. Allow no habitat alteration, disturbance or disposal of public lands within special status species habitat unless such actions can be biologically justified. 3. Protect special status plant and animal species and habitats from impacts of surface disturbing activities, vegetation manipulation, land tenure adjustments and livestock grazing.
(contd)	*(contd)*	*(contd)*

SPSS 1 (contd)

use pastures where grazing systems cannot otherwise be adjusted to accommodate the habitat requirements of a special status species.

5. Protect bald eagle winter habitat and populations by restricting activities that would result in disturbance to wintering eagles or adversely impact roost trees, prey species or other habitat components.

6. Facilitate the reintroduction of peregrine falcons into suitable nesting habitat within the Owyhee River canyons and other suitable habitats.

7. Limit recreational disturbance to bighorn sheep and other species by not exceeding the interim carrying capacity objectives identified in the Owyhee River Recreation Management Plan.

8. Facilitate the reintroduction and natural reestablishment of California bighorn sheep into suitable, unoccupied canyon habitats.

9. Limit livestock impacts to California bighorn sheep by allowing no development of livestock waters or other livestock facilities within one mile of the Owyhee River California Bighorn Sheep ACEC unless the potential adverse impacts to bighorn sheep can be avoided or mitigated.

10. Limit livestock impacts to California bighorn sheep by retaining the Crutcher's Crossing allotment (0593) in nongrazing status.

(contd)

ALTERNATIVE B

being made by state and local government planning agencies to protect, minimize and mitigate harm to the endangered or threatened species.

d) Describes and documents site specific critical habitats for the endangered or threatened species in accordance with 16 U.S.C. §1532(5), including a documented rationale for the critical habitat designation.

e) Describes and documents the site specific management actions necessary for the conservation and survival of the endangered or threatened species, documenting the reason why each action is necessary and the manner in which each action is expected to implement conservation and survival of species.

f) Describes and documents multiple use restrictions or limitations necessary for the conservation and survival of the endangered or threatened species, documenting the harm being done or threatened by a particular use or uses and the manner in which each use restriction or limitation is expected to implement conservation and survival of the endangered or threatened species.

g) Establishes and defines the objective, measurable criteria which, when met, would result in a determination that the endangered or threatened species could be removed from

(contd)

ALTERNATIVE C

This may include development of livestock exclosures or restricted-use pastures where grazing systems cannot otherwise be adjusted to accommodate the habitat requirements of a special status species.

5. Protect bald eagle winter habitat and populations by restricting activities that would result in disturbance to wintering eagles or adversely impact roost trees, prey species or other habitat components.

6. Enhance bald eagle winter habitat by planting additional roost trees.

7. Facilitate the reintroduction of peregrine falcons into suitable nesting habitat within the Owyhee River canyons and other suitable habitats.

8. Limit recreational disturbance to bighorn sheep and other species by not exceeding the interim carrying capacity objectives identified in the Owyhee River recreation Management Plan.

9. Facilitate the reintroduction and natural reestablishment of California bighorn sheep into suitable, unoccupied canyon habitats.

(contd)

ALTERNATIVE D

4. Restrict livestock grazing, where necessary, to protect and enhance habitat for special status species. Adjust overall livestock grazing management practices to maintain (good/excellent) and improve (poor/satisfactory) habitat for special status plant and animal species. This may include permanently closing allotments or pastures to livestock grazing.

5. Livestock grazing management practices will be established which ensure the recovery of threatened or endangered species, prevent species listed by the U.S. Fish and Wildlife Service or National Marine Fisheries Service as category 1 or 2 from becoming threatened or endangered, and prevent other special status species from being considered for listing as under the Endangered Species Act.

6. Limit deterioration of special status plant and animal species and their habitats by restricting OHMV activity. Close critical habitat to all OHMV activity. Maps SPSS-1, SPSS-2 and RECT-1D.

7. Protect bald eagle winter habitat and populations by restricting activities that would result in disturbance to wintering eagles or adversely impact roost trees, prey species or other habitat components. Follow management actions in the current and future approved Snake River Birds of Prey National Conservation Area Management Plan(s).

(contd)

OBJECTIVE	ALTERNATIVE A
SPSS 1 (contd)	11. Maintain suitable grassland nesting habitat for long-billed curlew. 12. Allow no habitat alteration within one mile of any burrowing owl nest and 1.5 miles of any ferruginous hawk nest unless a proposed change can be biologically justified. 13. Protect and enhance habitat for all special status species that are dependent upon aquatic/riparian habitats through implementation of management actions identified in objectives WATR 1, WATR 2, RIPN 1, WDLF 3, FISH 1 and FISH 2. See Table SPSS-2 for a list of special status animal species and their key habitats.

ALTERNATIVE B

the list as endangered or threatened.

h) Estimates and documents the time and cost required to carry out and achieve the goals of the endangered or threatened species management plan.

i) Describes and documents the economic impact in the Owyhee Resource Area of implementing the endangered or threatened species management plan.

2. Base the endangered or threatened species management plan on the best scientific and commercial data available, reviewing such data on at least an annual basis with federal agencies and state and local government planning agencies.

3. In coordination with federal agencies and state and local government planning agencies annually review the endangered or threatened species management plan and its implementation, and at least every five (5) years, review all components of the Plan and implementation to determine whether continuation of site specific management actions are necessary for conservation or survival, and to determine whether the endangered or threatened species listing should be altered.

4. Develop and implement a management plan for wild horses which will minimize and mitigate any damage or threat of damage to the endangered or threatened species caused by the wild horses.

5. Develop and implement a management plan for wildlife by

(contd)

ALTERNATIVE C

10. Limit livestock impacts to California bighorn sheep by allowing no development of livestock waters or other livestock facilities within one mile of the Owyhee River California Bighorn Sheep ACEC unless potential adverse impacts can be avoided or mitigated.

11. Protect and enhance California bighorn sheep and aquatic/riparian species habitat by closing the Crutcher's Crossing allotment (0593) to livestock grazing.

12. Maintain suitable grassland nesting habitat for long-billed curlew.

13. Reduce the potential for disease transmission between domestic sheep and California bighorn sheep.

14. Construct artificial nesting platforms for ferruginous hawks in areas where suitable nesting sites are determined to be limiting.

15. Protect all existing and potential northern goshawk nesting habitat by retaining all forest habitat types (excluding western juniper) in public ownership, allowing no prescribed burning or logging and providing full fire suppression.

16. Facilitate reintroduction of sharptail grouse and mountain quail into suitable habitats. Adjust livestock grazing and other management practices to maintain suitable habitat following reintroduction.

(contd)

ALTERNATIVE D

8. Enhance bald eagle winter habitat by planting additional native roost trees.

9. Facilitate the reintroduction of peregrine falcons into suitable nesting habitat within the Owyhee River canyons and other suitable habitats.

10. Facilitate the reintroduction and natural re-establishment of California bighorn sheep into suitable habitats. Bighorn sheep should be considered the primary resource value where they exist or could exist and all disturbing impacts should be minimized or eliminated to guarantee the health of the sheep population.

11. Limit livestock impacts to California bighorn sheep by allowing no livestock waters or other livestock facilities within two miles of the Owyhee River California Bighorn Sheep ACEC. Extend this restriction to other areas as future bighorn populations become established.

12. Protect and enhance California bighorn sheep and other wildlife and riparian habitat by closing the Crutcher's Crossing allotment (0593) to livestock grazing.

13. Immediately eliminate all domestic sheep grazing from public lands to reduce the chance of disease transmission from domestic to bighorn sheep and eliminate the possibility of a bighorn sheep dieoff. AUMs can convert from sheep to cattle.

(contd)

OBJECTIVE **ALTERNATIVE A**

SPSS 1 (contd)

ALTERNATIVE B

which consultation with appropriate control agencies will minimize and mitigate any damage or threat of damage to the endangered or threatened species caused by wildlife.

6. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium prior allotments; within ten (10) years on all other allotments. See Table LVST-BB.

Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

7. Develop a management plan for multiple recreation uses which will minimize and mitigate damage or threat of damage to

(contd)

ALTERNATIVE C

17. Acquire additional high quality habitat through purchase or exchange with willing landowners to enhance management for special status species.

18. Protect and enhance habitat for all special status species that are dependant upon aquatic/riparian habitats through implementation of management actions identified in objectives WATR 1, WATR 2, RIPN 1, WDLF 3, FISH 1 and FISH 2. See Table SPSS-2 for a list of special status animal species and their key habitats.

ALTERNATIVE D

Cattle stocking rates will be set at levels which do not degrade Bighorn forage availability.

14. Maintain (good/excellent) and improve (poor/satisfactory) grassland habitat for Long-billed curlew. Eliminate livestock grazing from April 1-June 15th to improve grasslands northeast of state highway 78 to provide suitable nesting habitat for Long-billed curlews.

15. Construct artificial nesting platforms for ferruginous hawks in areas where suitable nesting sites are determined to be limiting.

16. Protect all existing and potential northern goshawk and burrowing owl nesting habitat by retaining all forest habitat types in public ownership, allowing no prescribed burning or logging of their suitable habitat or allowing surface disturbing activities.

17. Facilitate reintroduction of sharptail grouse and mountain quail into suitable habitats. Restrict livestock grazing and other management practices before and after reintroduction to protect and enhance suitable habitat.

18. Acquire additional high quality habitat through purchase, exchange, and/or other authorities to enhance management for special status species.

OBJECTIVE	ALTERNATIVE A

SPSS 1 (contd)

endangered or threatened species by the multiple recreation uses. Planning documents and/or other agreements which alter recreation use for purposes of soil erosion problems must be formulated through coordination with the Owyhee County Land Use Planning Committee which includes OHMV recreationist representative groups.

8. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs.

9. In coordination with Owyhee County, through the Land Use and Management Planning process, all Special Status Species will be evaluated to determine whether such designation should continue. Within one (1) year a thorough review of and gathering and review of all necessary data will result in decisions on all current Special Status Species. All decisions regarding Special Status Species will be reviewed at five-year intervals to verify need for continuation of listings, or de-listing. Listing Prevention Management Plans for threatened and endangered candidate species and all Special Status Species will be coordinated with Owyhee County through the ongoing Land Use Management Planning process. Any new proposed listing for special status will also be reviewed in coordination with Owyhee County.

WILD HORSE MANAGEMENT

WHRS 1: Maintain wild and free-roaming horses in the Owyhee Wild Horse Herd Management Areas (HMAs) at appropriate management levels (AML) within a thriving natural ecological balance.

Rationale: The Wild and Free-Roaming Horse and Burro Act of 1971 (PL 92-195) requires the BLM to manage wild free-roaming horses and burros under multiple-use in a manner that is designed to achieve a thriving natural ecological balance on public lands.

Monitoring: Monitoring of the vegetation includes collection of actual use, utilization, trend, climate, and ecological site inventory data by various methods. Wild horse monitoring also includes collection of data concerning population characteristics. See Appendix MONT-1 for details concerning procedures.

1. Manage and protect wild horses from unauthorized capture, branding, harassment, or death within the Sands Basin, Hardtrigger, and Black Mountain Herd Management Areas (HMAs). See Map WHRS-A and Table WHRS-1A for allotment specific details.

2. Retain inactive status on a portion of the Hardtrigger Herd Area. See Map WHRS-A and Table WHRS-1A for allotment specific details.

3. Allocate forage to wild horses prior to forage allocation to domestic livestock. Allocate forage for the maximum number of wild horses identified. Permanently allocate 2,329 AUMs to wild horses. Any decrease in forage allocation as a result of range depletion will be proportionate between consumptive uses as determined through monitoring and the AIE process. Allocate any increase in available forage as a result of range improvement or range rehabilitation proportionately to wild horses and livestock. The following is the wild horse current forage allocation (AUMs) by Herd Management Area: Table WHRS-2A for allotment specific details.

Sands Basin: 429
Hardtrigger: 1,313
Black Mountain: 587
Total: 2,329

(contd)

ALTERNATIVE B

1. Protect wild horses from capture, branding, harassment, or death within the Sands Basin, Hardtrigger, and Black Mountain Herd Management Areas. See Map WHRS-B and Table WHRS-1B for allotment specific details.

2. Retain inactive status on a portion of the Hardtrigger Herd Area. See Map WHRS-B and Table WHRS-1B for allotment specific details.

3. Allocate AUMs sufficient to support the appropriate management level at which natural ecological balance and multiple use can be maintained. Any decrease in forage allocation as a result of range depletion when the horses are at or below the appropriate management level will be proportionate between consumptive uses as determined through monitoring and the AI&E (Analysis and Interpretation & Evaluation) process.

4. Manage wild horse herd population levels within Horse Management Areas as shown below in accordance with the results of monitoring studies and allotment evaluations. Adjustments to achieve and maintain a thriving natural ecological balance and multiple-use relationship will not be lower than the established minimum numbers. The appropriate management level will be based on the analysis of trend in range condition, which provides for the improvement or protection of the BLM administered rangelands.

(contd)

ALTERNATIVE C

1. Manage wild horses at appropriate management levels (AML) in the Hardtrigger and Black Mountain Herd Management Areas (HMAs). See Map WHRS-C and Table WHRS-1C for allotment specific details.

2. Designate inactive status on the Sands Basin and a portion of the Hardtrigger and Black Mountain Herd Areas and designate a portion of the Hardtrigger Wild Horse Herd Management Area as a wild horse range.

See Map WHRS-C and Table WHRS-1C for allotment specific details.

3. Allocate forage for wild horses at the upper end of the AML range. Allocate any increase in available forage as a result of range improvements or range rehabilitation proportionately to wild horses and other grazing uses (primarily livestock). Any decrease in forage allocation as a result of range depletion will be proportionate between consumptive uses as determined through monitoring and the AIE process. Limit utilization on approximately 67,797 acres of wild horse winter range to less than or equal to 40% during the domestic livestock grazing season and 50% for the year. Remove domestic livestock AUMs on approximately 6,280 acres of public lands. Relocate domestic livestock AUMs in the Rats Nest allotment to the Sands Basin allotment; within the Shares Basin allotment the wild

(contd)

ALTERNATIVE D

1. Manage wild horses in a wild horse range containing the Hardtrigger, Black Mountain, and Sands Basin Herd Management Areas (HMAs). See Map WHRS-D and Table WHRS-1D for allotment specific details.

2. Maintain wild horse population levels at appropriate management levels within the HMAs and adjust the AML range of the wild horses on the basis of monitoring to ensure a thriving natural ecological balance and range and ecosystem health within the HMAs. See Map WHRS-D and Table WHRS-2D for allotment specific details.

3. Maintain the Sands Basin HMA at current size.

4. Allocate any increase in available forage to wild horses and wildlife to meet management objectives. Any decrease in available forage as a result of range depletion will be accommodated by first reducing allocation to livestock, then wildlife.

5. Perpetuate characteristics (color, size, type, and conformation) that link the wild horses with their cultural and historical background.

6. Manage and limit public use (including OHMV use and equestrian use) in HMAs to protect wild and free roaming horses.

(contd)

WHRS 1 (contd)

4. Manage wild horse herd population levels within HMAs as shown below in accordance with the results of monitoring studies and allotment evaluations. Adjustments to achieve and maintain objectives for a thriving natural ecological balance and multiple-use relationship will not be lower than the established minimum numbers in order to maintain wild horse herd viability. The appropriate management level will be based on the analysis of trend in range condition, utilization, actual use, and other factors which provide for the protection of the public range lands from deterioration. Table WHRS-2A for allotment specific details.

	AML Range
Sands Basin:	22 - 33
Hardtrigger:	66 - 100
Black Mountain:	30 - 45
Total:	118 - 178

5. Perpetuate characteristics (color, size, type, and conformation) that link the wild horses with their cultural and historical background.

6. Manage OHMV use in HMAs as specified in RECT 1:1 for Alternative A.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D

See Table WHRS-2B for allotment specific details.

Sands Basin:	22
Hardtrigger:	66
Black Mountain:	30
Total:	118

5. Remove "excess" horses to prevent range deterioration and multiple use conflicts.

6. Constructively plan for and manage compatible multiple recreation uses, cultural and commercial uses which have long co-existed with wild horses in the multiple use relationship.

7. Plan for and establish compatible upgrades of, modifications of and initiation of range improvements such as pipeline development for better water distribution and innovative fencing for range management not restrictive to free-roaming horses.

8. Plan and develop a wild horse management program which will protect soil, water and vegetation resources from deterioration.

9. Plan and establish designated trail systems within Horse Management Areas for compatible recreation and commercial uses so that such uses can continue unabated without harassing wild horses. Planning documents and/or other agreements which alter recreation use for purposes of protecting wild and free-roaming horses must be formulated through coordination with the Owyhee County Land Use Planning

(contd)

horse AUMs will be located in the Squaw Creek Canyon area (1,400 acres) and the domestic livestock AUMs will be located in the remaining 2,648 acres of that pasture.) The following is the wild horse forage allocation (AUMs) by Herd Management Area: See Table WHRS-2C for allotment specific details.

Hardtrigger:	1,742
Black Mountain:	587
Total:	2,329

4. Manage wild horse herd population levels within HMAs at the AML shown below. See Table WHRS-2C for allotment specific details.

	AML Range
Black Mountain:	30 - 45
Hardtrigger:	88 - 133
Total:	118 - 178

5. Perpetuate characteristics (color, size, type, and conformation) that link the wild horses with their cultural and historical background.

6. Manage and limit public use (including OHMV use and equestrian use) in HMAs to protect wild and free roaming horses.

7. Adjust the AML range of the wild horses on the basis of monitoring to ensure a thriving natural ecological balance within the HMAs.

(contd)

7. Acquire legal access to specific sources of private land and water upon which wild horses may depend. Retain all Federal land within the HMAs. Acquire State land within or near the HMAs to ensure the integrity of individual herds and to ensure adequate water sources for wild and free roaming horses.

8. Remove range improvements which restrict movement and normal distribution of wild horses within the wild horse range.

9. Protect wild horses from unauthorized capture, harassment, or death within the HMAs.

10. Minimize wild horse and OHMV use conflicts by closing OHMV recreational facilities at Hemingway Butte.

WHRS 1 (contd)

LIVESTOCK GRAZING MANAGEMENT

LVST 1: Resolve issues associated with livestock grazing identified in the allotment summary (Appendix LVST-1). Eliminate identified issues within 20 years.

Rationale: The Taylor Grazing Act directs stabilization of the livestock industry dependent upon public lands. It also directs that action be taken to stop injury to public grazing lands and provide for orderly use.

Monitoring: Monitoring includes collection of actual use, utilization, trend, climate, and ecological site inventory data by various methods. Monitoring will also include use supervision and compliance checks. See Appendix MONT-1 for details concerning procedures.

1. Develop long-term rangeland resource management designed to resolve identified issues and achieve management objectives delineated for Improve (I) and Maintain (M) allotments. Appendix LVST-1 for allotment issues and objectives. Table LVST-A for livestock season-of-use and grazing systems.

2. Establish initial stocking level at 136,285 AUMs. Stocking levels will be reviewed and adjusted if necessary in accordance with the results of monitoring studies and AIEs every five (5) years for "I" category allotments and every ten (10) years for "M" category

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
Committee which includes OHMV recreationist representative groups. Manage the horses in and around Hemingway Butte and other recreation areas where OHMV use has historically existed so that such use may continue without adverse impact to either the horses or the interests of the OHMV or other managed uses, including grazing interests.	8. Acquire legal access to specific sources of private land and water upon which wild horses may depend. Retain all Federal land within the Herd Areas. Acquire State and private land, from willing landowners, within the Herd Areas that ensures the integrity of individual herds. 9. Upgrade, modify, or remove range improvements (RI) facilities that impact normal distribution or movement of wild horses. Design range improvement facilities so as not to increase the competition between consumptive users or impact the free-roaming behavior of the wild horse. Make new vegetation treatment areas available for wild horse grazing after a minimum of two growing seasons.	
1. Develop and implement AMPs as follows: Within five (5) years on all I category high priority allotments that do not already have current AMPs; within eight (8) years on all I category medium priority allotments; within ten (10) years on all other allotments. See Table LVST-BB. – This will be done to support current active preference on all allotments and support restoration of suspended nonuse on applicable allotments. Livestock management alternatives and range improvement projects listed in Table LVST-4 are considered a minimum that would be required *(contd)*	1. Develop long-term rangeland resource management designed to resolve identified issues and achieve management objectives delineated for Improve (I) and Maintain (M) allotments. Appendix LVST-1 for allotment issues and objectives. Table LVST-C for livestock season-of-use and grazing systems. 2. Establish initial stocking level at 89,257 AUMs. Stocking levels will be reviewed and adjusted if necessary in accordance with the results of monitoring studies and AIE's every five (5) years for "I" category allotments and every ten (10) years for "M" category *(contd)*	See Tables LVST-D and RIPN-1 and Appendix LVST-1. Unless stated otherwise, all actions listed below will start immediately upon approval of the Owyhee RMP. 1. Adjust livestock grazing in the Owyhee Resource Area. These actions will result in initial stocking levels of approximately 52,075 AUMs. The 20-year stocking level is projected to be 52,075 AUMs. The average licensed use (1981-1986) is 115,144 AUMs. • Eliminate livestock grazing on all allotments where 75% or more is in early seral stage. *(contd)*

OBJECTIVE	ALTERNATIVE A
LVST 1 (contd)	allotments. Allotment specific initial stocking levels are listed in Table LVST-A. The 20-year stocking level is projected to be 136,285 AUMs. The average licensed use (1981-1986) is 115,144 AUMs. 3. Utilize rangeland improvement program to implement and support achievement of multiple use resource objectives for specific allotments as shown in Table LVST-A. 4. Exclude livestock grazing on 7,684 acres. Areas excluded from grazing are shown on Map LVST-A.

ALTERNATIVE B

for an achievement of this objective. They are based on the cursory and preliminary allotment summaries shown in Appendix LVST-1. These assessments are extremely broad and general in nature and are therefore not useful in determining exact and specific livestock management and range improvement needs of specific allotments. The development of AMPs for specific allotments will provide for refinement and confirmation of issues and objectives in the allotment summaries, and identification of actions and projects designed to meet specific objectives for each allotment. Each allotment summary in Appendix LVST-1 shall contain this objective.

2. Grazing stocking levels will be reviewed and adjusted only in accordance with developed AMPs and/or trend monitoring data and/or in accordance with trend monitoring data completed at five-year intervals following implementation of AMPs. The initial stocking level will be 136,285 AUMs. The 20-year stocking level is projected to be 150,884 AUMs. The average licensed use (1981-1986) is 115,144 AUMs.

3. Implement rangeland improvement programs to achieve multiple use resource objectives, including but not limited to:
Water developments
Rangeland restoration
Juniper/Sagebrush control
Weed control

(contd)

ALTERNATIVE C

allotments. Allotment specific initial stocking levels are listed in Table LVST-C. The 20-year stocking level is projected to be 89,257 AUMs. The average licensed use (1981-1986) is 115,144 AUMs.

3. Utilize rangeland improvement program to implement and support achievement of multiple use resource objectives for specific allotments as shown in Table LVST-C.

4. Exclude livestock grazing on 9,665 acres. Areas excluded from grazing are shown on Map LVST-C.

ALTERNATIVE D

(This affects 226,806 acres and eliminates 24,415 AUMs.)

- Adjust stocking rates for each allotment to allow a maximum of 40% annual forage utilization of key forage species where 40% or more is in late seral, and 10% or less is in early seral condition; otherwise allow a maximum 30% annual forage utilization of key forage species. (Results: 840 acres will be grazed at 40% utilization, and 1,086,329 acres will be grazed at 30% utilization). Stocking rates may be adjusted further to protect the full spectrum of environmental, ecological, cultural, and recreational values of the ORA.
- In the absence of an approved and implemented grazing system designed to provide for satisfactory and functional riparian/wetland areas, immediately eliminate livestock grazing by July 15th, or earlier if necessary, in all pastures with riparian/wetland areas to meet resource objectives, regardless of the size of riparian/wetland areas and regardless of the monitoring status of the pasture. See Appendix LVST-1 and Table RIPN-1 for affected allotments and Table LVST-D for livestock grazing systems.
- Allow a maximum 10% annual utilization of woody riparian vegetation within each allotment.

(contd)

OBJECTIVE **ALTERNATIVE A**

LVST 1 (contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
4. Develop and implement an aggressive juniper abatement and control plan for juniper invasion sites. 5. Identify and develop off-stream water sources in all sensitive riparian pastures where such opportunities exist. 6. Exclude livestock grazing on 3,617 acres. Areas excluded from grazing are shown on Map LVST-B.		• A minimum stubble height of 6 inches will be present on all riparian areas at the end of the growing season. • Eliminate grazing within riparian/wetland areas after the growing season. • Provide a minimum of three calendar years rest from livestock grazing for all upland areas where livestock grazing has been eliminated, and then evaluate suitability for reintroduction of livestock. Upon reintroduction, stocking rates will be adjusted to ensure the pasture/allotment will exhibit positive trend toward the goal of 40% or more in late seral and less than 10% early seral stage. • Do not allow range improvements that would increase livestock grazing of existing potential natural condition areas; evaluate these areas for Research Natural Area Designation. 2. Stocking rates and grazing systems will be reviewed at least every five years and may be adjusted to protect the full spectrum of environmental, ecological, cultural, and recreation values of the ORA. 3. Reducing stocking rates will be the first choice in obtaining resource objectives, e.g. improved ecological site conditions (ESC). Rotational livestock grazing schemes, such as rest rotation and short-duration livestock grazing, will be

(contd)

OBJECTIVE	ALTERNATIVE A
LVST 1 (contd)	

considered only after stocking rate reductions are first implemented.

4. Land treatments and range improvements solely oriented towards maintaining or increasing livestock forage will not be allowed. Land treatments and range improvements will be limited to those that resolve an identified resource problem and contribute to achieving a properly functioning ecosystem.

5. Livestock grazing schedules will include period(s) of rest during times of critical plant growth and regrowth. The timing and duration of rest periods will be developed for each allotment by the authorized officer.

6. Grazing use will be adjusted before the next growing season where it is visually obvious or where monitoring data or professional judgement reveal that key resources or watershed functional requirements are not being met because of livestock overuse.

7. Continuous season-long livestock grazing will not be authorized until it has been demonstrated it is consistent with achieving proper functioning ecosystem condition and meeting identified resource objectives. Year-long grazing will not be authorized.

8. Terms and conditions of each permit or lease will include stocking rate, season-of-use, kind of livestock, deferment, rest, or other strategies that maintain

(contd)

LVST 1 (contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
		(good/excellent) and improve (poor/satisfactory) vegetation communities and ecosystem function to achieve resource objectives. 9. Allow no ephemeral (temporary non-renewable) livestock grazing (annual and perennial). 10. Mineral, protein, and other supplements, including forage, will be placed at least 1/4 miles from riparian-wetland areas, springs and seeps, and perennial streams and rivers. Site storage of materials is not allowed. 11. BLM will retain sole title and ownership of all future, permanent range improvements. Where deemed necessary to achieve resource objectives, the BLM will acquire sole title and ownership of existing range improvements through compensation, exchange, and/or other authorities. 12. Any wells that are drilled will be at least 1/4 miles from riparian/wetland areas and water that is made available to livestock will be at least 1/4 miles from riparian/wetland areas. 13. Complete AMPs for all allotments within 20 years. Prioritize starting with I, then M, then C category allotments. 14. Exclude livestock grazing on 10,579 acres. Areas excluded from grazing are shown on Map LVST-D.

OBJECTIVE	ALTERNATIVE A
FIRE MANAGEMENT **FIRE 1:** Contain wildfire by taking suppression actions using the range of acceptable acreage limits listed for each fire management zone (FMZ) within the resource area within the framework of the Boise District Fire Management Activity Plan (FMAP). See Map FIRE-1. FMZ 1.3: 500 acres (annual grasses) FMZ 1.5: 50 acres (annual grasses) FMZ 2.1: 1,000 acres (sagebrush bunchgrass) FMZ 2.2: 300 acres (sagebrush/bunchgrass) FMZ 3.1: 300 acres (juniper woodlands) FMZ 3.2: 100 acres (juniper woodlands) **Rationale:** The BLM feels that wildfires must have appropriate action taken, using the Fire Management Activity Plan (FMAP) and the identified value-at-risk. FMAP objectives and value-at-risk are predetermined. Wildfires are evaluated for resource damage, suppression cost plus "net resource value change", and management objectives. **Monitoring:** Fire occurrence reports, annually, with percentage of wildfires for each FMZ. Fire occurrence reports and individual Fire Report for each wildfire annually. Annually review fire occurrence report, after revision of the Boise District FMAP.	1. Provide initial attack and apply full suppression on all natural and human caused fires to meet suppression standards established in the FMAP. 2. Reduce the number and acres of human caused fires in FMZ 1.3 and FMZ 1.5 (Snake River Area) through prevention and education. 3. Reduce suppression standard from 1,000 acres to 100 acres within the wild horse herd management area.
FIRE 2: Decrease soil erosion and sediment yield, restore forage values, and restore upland habitat values and riparian values using fire rehabilitation procedures following a wildfire. **Rationale:** The Emergency Fire Rehabilitation (EFR) program calls to mitigate in the most cost-effective and expeditious manner possible, the adverse effects of fire on the vegetation-soil complex, the loss of water control and deterioration of water quality, and the detrimental alteration of crucial wildlife habitats. **Monitoring:** BLM Technical Reference 4400-1, Planning for Monitoring, April 1984, contains applicable guidance for planning monitoring studies associated with emergency rehabilitation treatments. At least three growing seasons after treatments are needed for monitoring and evaluations. See Appendix MONT-1 for various upland vegetation monitoring methods.	1. Waterbar and seed all firelines constructed on slopes of 25% or more to prevent erosion. 2. Backfill and reseed all firelines constructed by heavy equipment. 3. Apply rehabilitation seed mixtures to meet watershed, wildlife and riparian objectives. 4. Rest all rehabilitated areas, with the exception of firelines, from livestock grazing for at least two growing seasons.

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Provide initial attack and apply full suppression on all natural and human caused fires to meet suppression standards established in the FMAP. 2. Reduce the number and acres of human caused fires in FMZ 1.3 and FMZ 1.5 (Snake River Area) through prevention and education. 3. Adopt a "let burn" management policy for Fire Zones 3.1 and 3.2.	1. Provide initial attack and apply full suppression on all natural and human caused fires to meet suppression standards established in the FMAP. 2. Reduce the number and acres of human caused fires in FMZ 1.3 and FMZ 1.5 (Snake River Area) through prevention and education. 3. Reduce suppression standard from 1,000 acres to 100 acres within the wild horse herd management area.	1. Reduce fire suppression efforts to reintroduce the natural role of fire in ecosystem processes. 2. Reduce the number and acres of human caused fires in FMZ 1.3 and FMZ 1.5 (Snake River Area) through prevention and education. 3. Modify the Boise District FMAP to allow natural and human caused fires in wilderness study areas (WSAs) that would mimic historical fire regimes if allowed to burn.
1. Waterbar and seed all fire lines constructed on slopes of 25% or more to prevent erosion. 2. Backfill and reseed all fire lines constructed by heavy equipment. 3. Where rehabilitation is necessary use seed mixtures that will meet watershed, wildlife, livestock forage and/or riparian objectives.	1. Waterbar and seed all firelines constructed on slopes of 25% or more to prevent erosion. 2. Backfill and reseed all firelines constructed by heavy equipment. 3. Apply rehabilitation seed mixtures to meet watershed, wildlife and riparian objectives. 4. Rest all rehabilitated areas, with the exception of firelines, from livestock grazing for at least two growing seasons.	1. Waterbar and reseed using native plant species all firelines constructed on slopes of 15% or more to prevent erosion. 2. Backfill all firelines constructed by heavy equipment. Reseed using native plant species to restore natural vegetation. 3. Apply rehabilitation seed mixtures of native plants to meet watershed, wildlife and riparian objectives through restoration of native plant communities.
(contd)	*(contd)*	*(contd)*

OBJECTIVE	ALTERNATIVE A
FIRE 2 (contd)	5. Hand or aerial seed native species in wilderness study areas (WSAs) to restore natural vegetation. 6. Conduct watershed reclamation work in WSAs to prevent soil erosion and to avoid impairment of wilderness values. 7. Use rehabilitation techniques in WSAs that are least damaging to wilderness resources. 8. Use staggered or irregular seedings in WSAs to blend with the landscape.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
4. Conduct watershed reclamation work in WSAs to prevent soil erosion and to mitigate impairment of wilderness values. 5. Following wild or prescribed fire, Grazing Management Plans will be developed with close and considered consultation, coordination and cooperation with all affected permittees and affected landowners to provide for use of grazing animal management to enhance recovery.	5. Hand or aerial seed native species in WSAs to restore natural vegetation. 6. Conduct watershed reclamation work in WSAs to prevent soil erosion and to avoid impairment of wilderness values. 7. Use rehabilitation techniques in WSAs that are least damaging to wilderness resources. 8. Use staggered or irregular seedings in WSAs to blend with the landscape.	4. Eliminate livestock grazing and close OHMV use for all burned areas for at least three calendar years. Reintroduce livestock grazing only after rehabilitation of burned areas and firelines has been demonstrated. 5. Allow natural revegetation in WSAs and future designated wilderness. If reseeding has been determined to be necessary to protect wilderness values, use staggered or irregular hand or aerial seedings of native plant species in WSAs to blend with the landscape and existing native plant communities. 6. Conduct watershed reclamation work in WSAs and future designated wilderness to prevent soil erosion that would impair wilderness values and threaten sensitive species such as redband trout. Conduct watershed reclamation work in WSAs in such a way as to not impair wilderness values and following the guidelines of the Boise District Wilderness Interim Management Plan, updated 1987. 7. Use rehabilitation techniques in WSAs and future designated wilderness that are least damaging to wilderness resources and following the guidelines of the Boise District Wilderness Interim Management Plan, updated 1987.

OBJECTIVE	ALTERNATIVE A
FIRE 3: Use fire management to improve ecological site conditions of native plant communities using the Prescribed Fire Activity Plan, the Wilderness Fire Activity Plan and the Modified Suppression Plan. **Rationale:** All of the vegetation in the Owyhee Resource Area is fire related. At the present time juniper encroachment has doubled the juniper community distribution since 1860 in the Owyhee Mountains. It appears that the deep, loamy sites are likely to be occupied in time by dense stands of juniper with virtual elimination of desirable understory vegetation. **Monitoring:** Annually review fire occurrences report, after revision of the Boise District FMAP and the Modified Suppression Plan. BLM Technical Reference 4400-1, Planning for Monitoring, April 1984, contains applicable guidelines for planning monitoring studies. See Appendix MONT-1 for various upland vegetation monitoring methods.	1. Use natural and prescribed fire in the ecological communities to treat approximately 1,400 acres to approximately 9,000 acres per year. Appendices FIRE-1, FIRE-2, FIRE-3 and FIRE-4.
FIRE 4: Ensure that BLM controlled management actions do not exceed the National Ambient Air Quality Standards by airshed as established in the Clean Air Act and administered by guidelines in the State Implementation Plan (SIP), when in place. **Rationale:** Smoke management is one element (both prevention of significant deterioration (PSD) and total suspended particulates (TSP)) of several elements in the National Ambient Air Quality Standards, established in the Clean Air Act (1967) and amendments to the Act (1972,1977). **Monitoring:** Smoke management monitoring will occur under the requirements and guidelines for air quality and smoke management being developed by the State of Idaho.	1. Manage smoke from prescribed fire though techniques of avoidance, dilution and emission reduction.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Use natural and prescribed fire in the ecological communities to treat the maximum acreage allowed by the Clean Air Act and state regulations. 2. Review and implement the Boise District Fire Management Activity Plan and the Modified Suppression Plan. 3. Develop and implement an aggressive juniper abatement and control plan for all juniper invasion sites.	1. Use natural and prescribed fire in the ecological communities to treat approximately 1,400 acres to approximately 9,000 acres per year. Appendices FIRE-1, FIRE-2, FIRE-3 and FIRE-4.	1. Use natural and prescribed fire in the ORA to treat a maximum of 9,000 acres per year. 2. Use natural and prescribed fire in the ORA to mimic the historical fire regime of affected plant communities.
1. Manage smoke from prescribed burn through techniques of smoke avoidance, dilution and emission reduction.	1. Manage smoke from prescribed fire though techniques of avoidance, dilution and emission reduction.	1. Manage smoke from prescribed fire though techniques of avoidance, dilution, and emission reduction.

OBJECTIVE	ALTERNATIVE A
FIRE 5: Modify standard suppression techniques to protect sensitive resource values. **Rationale:** ACECs, WSAs and other sensitive areas contain important resource values. Some resource values could be damaged or destroyed by fire or fire suppression techniques, such as destroying an historical structure in the Silver City area or using a bulldozer to blade over the Oregon Trail. Standard suppression techniques need to be modified to protect these sensitive resource values. **Monitoring:** Annual fire occurrence reports.	1. Restrict the use of heavy equipment in fireline construction in WSAs, some ACECs, riparian habitat areas, the Silver City and DeLamar Historic Districts and the Oregon Trail. See Appendices FIRE-1, FIRE-2, FIRE-3 and FIRE-4 and Table ACEC-A. 2. Use any and all available fire suppression techniques to protect the Silver City area, cultural ACECs and unique wildlife habitat areas.
LANDS **LAND 1:** Acquire and maintain those lands through exchange or purchase which have high resource values and which provide for efficient and effective management and administration. **Rationale:** Section 202 of FLMPA makes it the policy of the United States that the public lands be retained in Federal ownership. Sections 205 and 206 of FLPMA provide mechanisms for consolidating land ownership patterns through acquisitions and disposals. Consolidated ownership patterns would provide for better land management and administration for both public and private landowners. Retention and acquisition of lands in public ownership containing significant resource values would provide for long-term protection and management of those values. Disposal of isolated, unmanageable tracts would provide more efficient use of lands better suited in private ownership and concentrate management efforts in significant blocks of public lands. **Monitoring:** Established Annual Work Plan (AWP) reporting procedures. Review access needs on a regular and periodic basis. Normal BLM accomplishment tracking process. Apply existing resource monitoring procedures on adjacent or comparable lands to newly acquired lands.	1. Manage newly acquired lands for the highest potential purpose for which they were acquired. Manage acquired lands with unique or fragile resources to protect those resources. Manage acquired lands without special values or management goals in the same manner as comparable or adjacent public lands.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Plan and implement special heavy equipment fire line construction and other fire suppression techniques specifically for WSAs, some ACECs, riparian habitat areas, the Silver City and DeLamar Historic Districts and the Oregon Trail.	1. Restrict the use of heavy equipment in fireline construction in WSAs, some ACECs, riparian habitat areas, the Silver City and DeLamar Historic Districts and the Oregon Trail. See Appendices FIRE-1, FIRE-2, FIRE-3 and FIRE-4 and Table ACEC-C. 2. Use any and all available fire suppression techniques to protect the Silver City area, cultural ACECs and unique wildlife habitat areas.	1. Restrict the use of heavy equipment in fireline construction in WSAs, ACECs, riparian habitat areas and cultural areas, the Silver City and DeLamar Historic Districts, and the Oregon Trail. See Appendices FIRE-1, FIRE-2, FIRE-3 and FIRE-4 and Table ACEC-D. 2. Use heavy equipment in fireline construction in WSAs and Section 202 lands only to protect human life.
1. Develop plans to manage newly acquired lands for multiple use purposes. 2. Give priority consideration to requests for exchanges or purchases from private land owners with fenced federal range, isolated tracts, or irregular boundary lines.	1. Manage newly acquired lands for the highest potential purpose for which they were acquired. Manage acquired lands with unique or fragile resources to protect those resources. Manage acquired lands without special values or management goals in the same manner as comparable or adjacent public lands.	1. Priority of acquisition will be toward lands that enhance wildlife, recreation, and wilderness to complement existing lands. 2. Within one year, develop and publish a prioritized list of highest potential purpose lands to acquire, and also an acquisition plan. 3. Manage newly acquired lands for the highest potential purpose for which they were acquired. Manage acquired lands with unique or fragile resources to protect those resources. Eliminate livestock grazing from all newly acquired special purpose lands. Develop management prescriptions before obtaining new lands.

OBJECTIVE	ALTERNATIVE A
LAND 2: Make available for disposal approximately 196,490 acres of public land by sale, exchange, Recreation & Public Purposes Act or agricultural entry during the life of the plan. Retain in federal ownership those lands not identified for disposal. **Rationale FLPMA 203, 206, 212.** Disposal of certain public lands is important to eliminate those lands that are difficult and uneconomic to manage or that would serve important public objectives. **Monitoring:** Normal BLM accomplishment tracking processes.	1. Retain all public land in federal ownership, except those lands specifically identified for disposal. 2. Public lands currently under Desert Land (DLE) application that are relinquished or rejected will not be made available for further application for agricultural purposes.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Identify those BLM administered lands which should be disposed of in the public good. BLM administered lands currently under DLE application or Patent application that are relinquished or rejected will be made available for further application for agricultural or mining purposes.	1. Consolidate public lands by land tenure adjustment to acquire lands having higher public values and disposing of lands having lower public values by the various authorities available. Se Table LAND-1 and Map LAND-3C.	1. Consolidate public lands by land tenure adjustment to acquire lands having higher public values and disposing of lands having lower public values by the various authorities available. See Table LAND-1 and Map LAND-3D.
2. Give priority consideration to requests for exchanges or purchases from private land owners with fenced federal range, isolated tracts, or irregular boundary lines.	Zone 1. Retain lands in public ownership in Zone 1. Lands in Zone 1 have been determined to have high public values including but not limited to; Wilderness Study Areas, Wild and Scenic Rivers, ACEC's for protection of botanical and archaeological values, crucial wildlife habitat and recreational values. Land in this zone will be considered for R&PP actions on a site specific basis.	Zone 1. Retain lands in public ownership in Zone 1. Lands in Zone 1 have been determined to have high public values including but not limited to; Wilderness Study Areas, Wild and Scenic Rivers, ACEC's for protection of botanical and archaeological values, crucial wildlife habitat and recreational values. Land in this zone will be considered for R&PP actions on a site specific basis.
	Zone 2. Retain lands in public ownership in Zone 2 except for voluntary exchanges to resolve land use conflicts within this zone. Zone 2 coincides with the Snake River Birds of Prey National Conservation Area boundary. Public Law 103-64, passed by Congress and signed into law August 4, 1993, established the Snake River Birds of Prey National Conservation Area. This law withdrew all Federal lands within the conservation area from all forms of entry, appropriation, application, selection and disposal except for voluntary land exchanges which would resolve ownership related land use conflicts within the conservation area.	Zone 2. Retain lands in public ownership in Zone 2 except for voluntary exchanges to resolve land use conflicts within this zone. Zone 2 coincides with the Snake River Birds of Prey National Conservation Area boundary. Public Law 103-64, passed by Congress and signed into law August 4, 1993, established the Snake River Birds of Prey National Conservation Area. This law withdrew all Federal lands within the conservation area from all forms of entry, appropriation, application, selection and disposal except for voluntary land exchanges which would resolve ownership related land use conflicts within the conservation area.
	(contd)	*(contd)*

LAND 2 (contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	Zone 3. Exchange public lands within Zone 3 only with the State of Idaho to further "block" public lands in this Zone. Land in this zone will be considered for R&PP actions on a site specific basis.	Zone 3. Exchange public lands within Zone 3 only with the State of Idaho to further "block" public lands in this zone. Land in this zone will be considered for R&PP actions on a site specific basis.
	Zone 4. Make lands available for disposal in Zone 4. Lands designated for disposal that meet the criteria found at 43 CFR 2710.0-3(a)(3) are designated as Zone 4. These lands meet the criteria for disposal by sale, but may also be disposed of by any other authority available to BLM, except the Desert Land Act and the Carey Act, for transfer of title out of public ownership.	Zone 4. Make lands available for disposal in Zone 4. Lands designated for disposal that meet the criteria found at 43 CFR 2710.0-3(a)(3) are designated as Zone 4. These lands meet the criteria for disposal by sale, but may also be disposed of by any other authority available to BLM, except the Desert Land Act and the Carey Act, for transfer of title out of public ownership.
	Zone 5. Make lands available for disposal in Zone 5. The term "disposal", unless specifically qualified, refers to any BLM authority which transfers title out of public ownership except sale, the Desert Land Act and the Carey Act.	Zone 5. Make lands available for disposal in Zone 5. The term "disposal", unless specifically qualified, refers to any BLM authority which transfers title out of public ownership except sale, the Desert Land Act and the Carey Act.
	2. Public lands currently under Desert Land (DLE) application that are relinquished or rejected will not be made available for further application for agricultural purposes.	2. Exchanges or disposal of lands in Zones 2, 3, 4, and 5 may be allowed as long as the net overall area of the ORA does not reduce in size by more than 1%.
		3. Public lands currently under Desert Land (DLE) application that are relinquished or rejected will not be made available for further application for agricultural purposes.

OBJECTIVE	ALTERNATIVE A
LAND 3: Authorize the use of public lands for rights-of-way except for those areas identified as avoidance or exclusion areas. **Rationale:** FLPMA 212, 302, 307, 501, 507, 43 CFR 2800 and 2920. Allowing for use of the public lands by providing continuity of uses for roads, power, water, natural gas, etc. **Monitoring:** Application of this decision will be monitored as large scale right-of-way proposals are evaluated through the NEPA process.	1. Authorize future rights-of-way that are compatible with existing uses within a distance of one mile on either side of right-of-way I-8857 (500 Kv powerline) and within a distance of one half mile on either side of right-of-way I-013445 (natural gas pipeline). 2. Manage certain areas as rights-of-way avoidance or exclusion areas. See Table ACEC-A and Map LAND-A. 3. Prohibit the following activities on public lands: a. New public waste disposal sites. b. New or existing private waste disposal sites. c. Storage or disposal of hazardous waste. 4. Process applications for rights-of-way, permits, leases, and other realty actions in a timely manner on a site-specific basis utilizing the NEPA process.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Recognize and honor valid existing rights on the BLM administered lands to avoid use conflicts.	1. Authorize future rights-of-way that are compatible with existing uses except within those areas that are identified as exclusion areas. Authorize rights-of-way within avoidance areas only when alternates are not available or acceptable and resource impacts can be mitigated.	1. Exclude new rights-of-way opportunities within all WSAs, future designated wilderness, SRMAs, ACECs, Section 202 lands, crucial wildlife habitat and wild horse areas. See Table ACEC-D and Map LAND-D.
2. Authorize future rights-of-way that are compatible with existing uses within a distance of one mile on either side of right-of-way I-8857 (500 Kv powerline) and within a distance of one half mile on either side of right-of-way I-013445 (natural gas pipeline).	2. Manage certain areas as rights-of-way avoidance or exclusion areas. See Table ACEC-C and Map LAND-C.	2. Do not allow changes in current rights-of-way status (i.e. surface, subsurface, or overhead).
3. When the following activities are proposed for use on the public lands, evaluate and plan for them through NEPA, EIS process: a) New private waste disposal sites or BLM mandated closure of private waste disposal sites. b) Disposal of hazardous material.	3. Prohibit the following activities on public lands: a. New public waste disposal sites. b. New or existing private waste disposal sites. c. Storage or disposal of hazardous waste.	3. Prohibit the following activities on public lands: New public waste disposal sites. New or existing private waste disposal sites. Storage or disposal of hazardous waste. Dumping of fuel and other hazardous materials from airborne military aircraft above the ORA.
4. Process applications for rights-of-way, permits, leases, and other realty actions in a timely manner. See Map LAND-B.	4. Process applications for rights-of-way, permits, leases, and other realty actions in a timely manner on a site-specific basis utilizing the NEPA process.	

OBJECTIVE	ALTERNATIVE A
LAND 4: Acquire and maintain legal public and/or administrative access to public land consistent with other resource values. **Rationale:** Due to the generally fragmented nature of public lands in some parts of the resource area, several critical access points, crossing private lands, lack legal access. Legal access is needed in these areas to ensure continued effective administrative and public use of these lands. This need becomes more acute as public use of these lands increases, and as land owners become more aware of the value of public and private land for recreation and other purposes. Land tenure adjustment actions (exchanges or fee purchases) can be a valuable tool for access acquisitions. However, without careful review, lands actions, particularly exchanges, can result in lost access. Other tools can also be utilized, such as constructing new roads around lands where access is restricted and the cost of acquisition would exceed the cost of construction or where such acquisition is not feasible. **Monitoring:** Normal BLM tracking process. Review access needs on a regular basis.	1. Acquire legal or administrative access where public demand or an administrative need exists. Place emphasis on providing access to areas containing high resource values. Map LAND-4. 2. Ensure that public access is maintained or improved through all land tenure adjustment transactions. 3. Construct new roads around private lands where easement acquisition is not feasible but significant access needs have been identified.
LAND 5: Identify and abate unauthorized use of public lands. **Rationale:** FLPMA 102, 303, 43 CFR 9230. The abatement of unauthorized uses protects resource values on the public lands and prevents loss of revenue due the United States. **Monitoring:** Monitoring will include regular surveillance of lands and resources where a high probability of unauthorized use exists, as well as follow-up on information concerning possible trespass provided by the staff and by the public. Normal BLM accomplishment process will be utilized to trace implementation of this decision.	1. Detect, confirm and abate, either by authorization or termination, all unauthorized use on public land.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Acquire legal or administrative access through purchase or exchange where an administrative need exists. 2. Ensure that public access is maintained or improved through all land tenure adjustment transactions. 3. Construct new roads around private lands where easement acquisition is not feasible, but significant access needs have been identified.	1. Acquire legal or administrative access where public demand or an administrative need exists. Place emphasis on providing access to areas containing high resource values. See Map LAND-4. 2. Ensure that public access is maintained or improved through all land tenure adjustment transactions. 3. Construct new roads around private lands where easement acquisition is not feasible but significant access needs have been identified.	1. Acquire legal or administrative access where public demand or an administrative need exists. Place emphasis on providing access to areas containing high resource values. See Map LAND-4. 2. Ensure public access is maintained or improved through all land tenure transactions. 3. Construct new roads around private lands where easement acquisition is not feasible, but significant access needs have been identified. 4. Exclude ACECs, SRMAs, and Section 202 lands from development of new roads or jeep trails, except for those described in Objective: RECT 4: for Alternative D. Do not develop new roads or jeep trails within WSAs.
1. Detect, confirm and abate, either by authorization or termination, unauthorized uses on BLM administered land.	1. Detect, confirm and abate, either by authorization or termination, all unauthorized use on public land.	1. Detect, confirm, and abate all unauthorized use on public land. 2. Develop and implement a livestock season-of-use and stocking rate monitoring plan. Where livestock trespass is identified the first time, fine the permittee. If trespass is found again within 5 years, implement maximum penalties for that permittee.

OBJECTIVE	ALTERNATIVE A
LAND 6: Withdraw certain public land for protection from degradation and protection of identified resource values. **Rationale:** Section 204 of FLPMA gives the Secretary the authority to make, modify, extend or revoke withdrawals and mandates review of withdrawals. Bureau Manual 2300 provides guidance. The placement of withdrawals on designated parcels of the public lands segregates them from certain uses to prevent unnecessary and undue degradation of a resource. **Monitoring:** Normal BLM tracking process. Review withdrawals on a regular basis.	1. Withdraw BLM lands shown to contain high resource values and lands that may be damaged or degraded using the existing management directives. See Table LOCM-A.
LAND 7: Provide management prescriptions on those lands that have been returned to BLM management through revocation of withdrawals. **Rationale:** FLPMA 204. Bureau Manual 2355 and the Annual Work Plan (AWP) process provides guidance. Lands currently under the jurisdiction of other agencies or lands currently withdrawn for a specific use need a management prescription when that existing withdrawal is revoked. **Monitoring:** Normal BLM tracking process.	1. Manage lands that have been returned to BLM management through revocation of withdrawals in the same manner as adjacent lands. If returned lands have a significant resource, recreation, wildlife or cultural value, manage those lands for continued protection and enhancement of the value identified.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Withdraw BLM administered lands shown in NEPA evaluations to contain high resource values in lands that will be damaged or degraded without such withdrawal. See Table LOCM-B. 2. Mitigate impact to private property rights or interests.	1. Withdraw BLM lands shown to contain high resource values and lands that may be damaged or degraded using the existing management directives. See Table LOCM-C.	1. Withdraw from locatable mineral entry, close to fluid mineral leasing and mineral material disposal those BLM lands shown to contain high resource values and lands that may be damaged or degraded using the existing management directives. See Tables LOCM-D, FLUM-D and MMAT-D. 2. Recommend that the Secretary of the Interior administratively designate or that Congress designate the Owyhee Uplands National Conservation Area. The NCA would encompass approximately 1.12 million acres with 442,606 acres in the Owyhee Resource Area corresponding with the Owyhee Canyonlands SRMA boundary. See Map RECT-2D.
1. Manage lands that have been returned to BLM management through revocation of withdrawals in accordance with new multiple use management plans for those areas.	1. Manage lands that have been returned to BLM management through revocation of withdrawals in the same manner as adjacent lands. If returned lands have a significant resource, recreation, wildlife or cultural value, manage those lands for continued protection and enhancement of the value identified.	1. Manage lands that have been returned to BLM through revocation of withdrawals in the same manner as adjacent lands. If returned lands have a significant resource, recreation, wildlife, cultural value, or other important values, manage those lands for continued protection and enhancement of the value identified.

LOCATABLE MINERALS

LOCM 1: Provide opportunities for exploration and development of locatable mineral resources on public lands under the Mining Laws.

Rationale: The 1872 Mining Law (30 USC 22 et. seq), along with the Mining and Mineral Policy Act of 1970 declares that it is the continuing policy of the Federal Government to foster and encourage private enterprise in the development of domestic mineral resources. The FLPMA, Section 102, reiterates that the Mining and Minerals Policy Act of 1970 is to be implemented and directs that the public Lands are to be managed in a manner which recognizes the Nation’s need for domestic sources of minerals and other resources. The National Materials and Minerals Policy, Research, and Development Act of 1980 restates the need to implement the 1970 act and requires the Secretary of the Interior to improve the quality of minerals data in Federal land use decisionmaking.

Monitoring:

Regular surveillance to detect and confirm unauthorized mining activity.
Monitor active mining operations.
Make periodic inspections consistent with BLM policies.
Continue the review of all pertinent literature.

1. Manage the public lands in accordance with the provisions of the Mining and Minerals Policy Act of 1970, the Federal Land Policy and Management Act of 1976, and the National Materials and Minerals Policy, Research, and Development Act of 1980 and consistent with other applicable statutory obligations.

2. Manage the areas of high mineral values near DeLamar primarily for their mineral values. Map LOCM-2.

3. Recommend withdrawal from mineral entry certain recreation areas, certain ACECs, and lands that become designated as Wild, Scenic or Recreational Rivers or Wilderness areas. See Table LOCM-A.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Manage the BLM administered lands in accordance with the provisions of the Mining and Minerals Policy Act of 1970, the Federal Land Policy & Management Act, and the National Materials and Minerals Policy Research and Development Act of 1980 consistent with other applicable statutory obligations. 2. Manage the Owyhee Resource Area for mineral development in an environmentally responsible manner pursuant to federal, state and local legislation. 3. In coordination with federal agencies and state and local government planning agencies and in cooperation with interested members of the public, develop a land management mineral classification plan to evaluate, classify and inventory the potential for mineral exploration or development in the Owyhee Resource Area to ensure that lands shall remain open and available unless withdrawn through the NEPA process. Active areas, such as the Carson Mining District, would be managed primarily for their high mineral values. 4. Develop an evaluation program which relies upon and uses all available data retrieval and interpretation methods, including, but not limited to: Reviewing existing data, geochemical and geophysical testing, geological mapping and sampling, and, where appropriate, drilling testing.	1. Manage areas classified as having a high potential for locatable minerals primarily for mineral development while preventing unnecessary and undue degradation. 2. Allow mineral exploration and development on areas classified as having a moderate to low potential for locatable minerals subject to reasonable measures to prevent unnecessary and undue degradation. 3. Recommend withdrawal from mineral entry certain recreation areas, certain ACECs, and lands that become designated as Wild, Scenic or Recreational Rivers or Wilderness areas. See Table LOCM-C.	1. Withdraw from mineral entry: All SRMAs, ACECs, the SRBOPNCA, and Section 202 study lands. All WSAs and future designated wilderness lands. All eligible and future designated Wild, Scenic, or Recreational Rivers; and their corridors. All known and future discovered important paleontological and cultural resource sites. All areas where Special Status Species might be negatively impacted. See Table LOCM-D. 2. Limit adverse impacts of locatable mineral exploration and development in wetland and riparian habitat through inclusion of stipulations on mining notices and Plans of Operation. See Table LOCM-D. 3. Define reclamation standards and present plan to the public before mineral entry is allowed to begin. 4. Secure maximum bonds allowed by law for full reclamation of impacted areas. 5. Secure maximum bonds allowed by law sufficient to restore potential damage caused by accidents or emergencies. 6. Identify, close, and rehabilitate all known unauthorized sites.

OBJECTIVE	ALTERNATIVE A
FLUID MINERALS **FLUM 1:** Provide opportunities for exploration and development of oil and gas and geothermal resources on public lands by imposing the least restrictive leasing categories necessary to protect other resources. **Rationale:** The Mineral Leasing Act of 1920 as amended, the Geothermal Steam Act of 1970 as amended, and the Mining and Mineral Policy Act of 1970 declares that it is the continuing policy of the Federal government to foster and encourage private enterprize in the development of domestic mineral resources. FLPMA, Section 102 reiterates that the Mining and Minerals Policy Act of 1970 is to be implemented and directs that the public lands are to be managed in a manner which recognizes the Nation's need for domestic sources of minerals and other resources. **Monitoring:** Incorporate stipulations on leases as appropriate.	1. Provide maximum opportunity for leasing, exploration and development of oil & gas and geothermal resources consistent with the protection of other resource values. 2. Close certain areas to fluid mineral leasing to protect identified resource values. See Table FLUM-A. 3. Lease with no surface occupancy, seasonal occupancy and other surface occupancy stipulations certain areas to protect identified resource values. See Table FLUM-A.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Provide maximum opportunity for leasing, exploration and development of oil and gas and geothermal resources consistent with the protection of other resource values.	1. Provide maximum opportunity for leasing, exploration and development of oil & gas and geothermal resources consistent with the protection of other resource values.	1. Close to fluid mineral development: All SRMAs, ACECs, the SRBOP NCA, and Section 202 study lands. All WSAs and future designated wilderness lands All eligible and future designated Wild, Scenic or Recreational Rivers All known and future discovered important paleontological and cultural resource sites All areas where Special Status Species might be negatively impacted See Table FLUM-D.
2. In coordination with federal agencies, state and local government planning agencies and in cooperation with interested members of the public, develop a land management plan which outlines occupancy stipulations using importance and relevance planning criteria to ensure that lands shall remain open and available unless withdrawn through the NEPA process. See Table FLUM-B.	2. Close certain areas to fluid mineral leasing to protect identified resource values. See Table FLUM-C.	2. Limit adverse impacts of fluid mineral exploration and development in wetland and riparian habitat through inclusion of stipulations on mineral leases and Applications for Permit to Drill (APDs). Lease with no surface occupancy, seasonal occupancy and other surface occupancy stipulations certain areas to protect identified resource values. See Table FLUM-D.
	3. Lease with no surface occupancy, seasonal occupancy and other surface occupancy stipulations certain areas to protect identified resource values. See Table FLUM-C.	3. Secure maximum bonds allowed by law for full reclamation of impacted areas.
		4. Secure maximum bonds allowed by law sufficient to restore potential damage caused by accidents or emergencies.
		5. Define reclamation standards and present plan to the public before fluid mineral leasing is allowed to begin.
		6. Identify, close, and rehabilitate all known unauthorized sites.

OBJECTIVE	ALTERNATIVE A
MINERAL MATERIALS **MMAT 1:** Provide opportunities for use of common variety minerals obtained from the public lands. **Rationale:** The Materials Act of July 31, 1947 as amended (30 USC 601) and the Mining and Mineral Policy Act of 1970 declares that it is the continuing policy of the Federal Government to foster and encourage private enterprise in the development of domestic mineral resources. The FLPMA, Section 102 reiterates that the Mining and Minerals Policy Act of 1970 is to be implemented and directs that the public lands are to be managed in a manner which recognizes the Nations need for domestic sources of minerals and other resources. **Monitoring:** Geologist and other resource specialists to note unauthorized use, make periodic inspections for authorized use and maintain records in accordance with BLM manuals.	1. Provide for mineral material needs through negotiated sales, free use permits and community pits. 2. Detect, confirm, and abate unauthorized use on the public lands. Effect reclamation of lands damaged by unauthorized use. 3. Close certain areas to mineral material disposal. See Table MMAT-A.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Provide for mineral material needs through negotiated sales, free use permits and community pits.	1. Provide for mineral material needs through negotiated sales, free use permits and community pits.	1. Close to mineral material disposal: All SRMAs, ACECs, the SRBOPNCA, and Section 202 study lands. All WSAs and future designated wilderness lands All eligible and future designated Wild, Scenic or Recreational Rivers All known and future discovered important paleontological and cultural resource sites All areas where Special Status Species might be negatively impacted See Table MMAT-D.
2. Detect, confirm and abate unauthorized use on the BLM administered lands. Effect reclamation of lands damaged by unauthorized use.	2. Detect, confirm, and abate unauthorized use on the public lands. Effect reclamation of lands damaged by unauthorized use.	2. Limit adverse impacts of mineral materials sales in wetland and riparian habitat through inclusion of stipulations on material leases.
3. In coordination with federal agencies and state and local government planning agencies and in cooperation with interested members of the public, develop a land management plan by which to evaluate, classify and inventory the current material minerals and land uses, and the potential for material mineral exploration or development in the Owyhee Resource Area to ensure that lands shall remain open and available unless withdrawn through the NEPA process. See Table MMAT-B.	3. Close certain areas to mineral material disposal. See Table MMAT-C.	3. Detect, confirm, and abate unauthorized use on the public lands. Effect reclamation of lands damaged by unauthorized use.
4. Manage existing sites to develop their full potential for beneficial use by the general public and government agencies.	4. Manage existing material sites for long-term use by government agencies and the general public.	4. Secure maximum bonds allowed by law for full reclamation of impacted areas.
		5. Secure maximum bonds allowed by law sufficient to restore potential damage caused by accidents or emergencies.
		6. Define reclamation standards and present plan to the public before disposal is allowed to begin.

(contd)

MMAT 1 (contd)

RECREATION

RECT 1: Provide for off-highway motor vehicle (OHMV) use on public lands while protecting sensitive resource values.

Rationale: Federal regulations require the BLM to designate all public lands as either open, limited, or closed to off-highway (or off-road) motor vehicle use for the purpose of meeting public demand for OHMV activities, to protect natural resources and the safety of the public, and to minimize conflicts among various user groups. Federal regulations pertaining to OHMV planning include 43 CFR 8342; Executive Order 11644, Use of Off-Road Vehicles on Public Lands (37 FR 2877: February 9, 1977); Executive Order 11989, Off-Road Vehicles on Public Lands (42 FR 26959h; May 25, 1977).

Monitoring: Periodic patrols to check designation boundaries, signing, and recreational use. In the Owyhee Front SRMA, patrols will be weekly. In the rest of the ORA, patrols will be monthly.

Establishment of baseline data and photo points to determine impacts of recreation use on soil and vegetation resources.

Rehabilitation of specific sites as necessary.

Monitoring of administrative activities to ensure compliance with OHMV designations and related motorized access authority/exclusion decisions.

1. Manage OHMV recreational use on public lands in accordance with the following designations: See Map RECT-1A.

Open: Off-highway motorized vehicle use is allowed on all public lands without special restrictions, except as otherwise posted: 420,493 acres.

Limited - Level 1: Off-highway motorized vehicle use is limited to existing roads, jeep trails, motorcycle/ATV trails, and sand washes year-round, except as otherwise posted: 233,649 acres.

Limited - Level 2: Off-highway motorized vehicle use is limited to existing roads and to jeep, motorcycle and ATV trails year-round, except as otherwise posted; with management retaining the option to close lands to OHMV use from (month-day) to (month-day), except for designated routes. (Dates can vary among administrative units.) 0 acres.

Limited - Level 3: Off-highway motorized vehicle use is limited to existing roads and jeep trails,

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
		7. Where necessary, and upon public review, close lands to mineral material disposal that contain an active mineral material site and are not in the public interest or contribute to resource degradation. 8. Identify, close, and rehabilitate all known unauthorized sites.
1. In coordination with federal agencies and with state and local government planning agencies, and in cooperation with affected public interests, develop and implement a management plan which will include the following: a) A review and evaluation of all existing open, limited and closed area designations in order to determine whether the existing designations are necessary and appropriate. The determination of appropriateness of the existing designations should be made by evaluating the following criteria: i) Are the designations and specific limitations and restrictions necessary to minimize or mitigate damage to soil, watershed, vegetation, or other range resources of the lands, identifying and documenting the damage which would be caused without designations and limitations and restrictions, and the manner in which the designations, limitations and restrictions minimize or mitigate the damage.	1. Manage OHMV recreational use on public lands in accordance with the following designations: See Map RECT-1C. Open: Off-highway motorized vehicle use is allowed on all public lands without special restrictions, except as otherwise posted: 0 acres. Limited - Level 1: Off-highway motorized vehicle use is limited to existing roads, jeep trails, motorcycle/ATV trails, and sand washes year-round, except as otherwise posted: 101,612 acres. Limited - Level 2: Off-highway motorized vehicle use is limited to existing roads and to jeep, motorcycle and ATV trails year-round, except as otherwise posted; with management retaining the option to close lands to OHMV use from (month-day) to (month-day), except for designated routes. (Dates can vary among administrative units.) 0 acres. Limited - Level 3: Off-highway motorized vehicle use is limited to existing roads and jeep trails,	1. Manage OHMV recreational use on public lands in accordance with the following designations: See Map RECT-1D. Open: Off-highway motorized vehicle use is allowed on all public lands without special restrictions, except as otherwise posted: 0 acres. Limited - Level 1: Off-highway motorized vehicle use is limited to existing roads, jeep trails, motorcycle/ATV trails, and sand washes year-round, except as otherwise posted: 0 acres. Limited - Level 2: Off-highway motorized vehicle use is limited to existing roads, jeep trails and motorcycle/ATV trails year-round, except as otherwise posted; with management option to close select lands to OHMV use from November 1 to April 30, except for designated routes; Snowmobiles restricted to designated areas in winter months: 384,865 acres. Limited - Level 3: Off-highway motorized vehicle use is limited to existing roads and jeep trails,
(contd)	*(contd)*	*(contd)*

OBJECTIVE	ALTERNATIVE A
RECT 1 (contd)	and to designated motorcycle and ATV trails year-round, except as otherwise posted. 0 acres. Limited - Level 4: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round; Snowmobiles restricted to designated areas in winter months: 541,074 acres. Limited - Level 4-IMP(0): Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round until lands are released from the Wilderness IMP. Lands are then managed as "Open": 109,140 acres. Limited - Level 5: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round, except as otherwise posted; with management retaining the option to close lands to OHMV use from (month-day) to (month-day), except for designated routes. (Dates can vary among administrative units.) 0 acres. Limited - Level 6: Off-highway motorized vehicle use is limited to designated roads and trails year-round; Snowmobiles restricted to designated trails in winter months: 15,295 acres. Limited - Level 7: Off-highway motorized vehicle use is limited to designated roads and trails (jeep, ATV and/or motorcycle) year-round, except as otherwise posted; with management retaining the option to close

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
(ii) Are the current designations, limitations and restrictions necessary to minimize or mitigate harassment of wildlife or significant disruption of wildlife habitats, identifying, describing and documenting the harassment and significant disruption which would be caused without the designations and limitations and restrictions, and the manner in which the designations, limitations and restrictions minimize or mitigate the harassment and significant disruption. (iii) Are the current designations necessary to minimize or mitigate conflicts between off-road vehicle use and other recreational uses, and are they necessary to ensure compatibility of off-road vehicle use with existing conditions in the populated areas, identifying, describing and documenting the conflicts or incompatibility which would be caused without the designations and limitations and their limitations and restrictions, and the manner in which the designations, limitations and restrictions minimize or mitigate the conflict or incompatibility. 2. Provide for adequate outdoor recreation resources by revising the designated areas to decrease or eliminate limitations and restrictions where the review and *(contd)*	and to designated motorcycle and ATV trails year-round, except as otherwise posted. 0 acres. 0 acres. Limited - Level 4: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round; Snowmobiles restricted to designated areas in winter months: 313,999 acres. Limited - Level 4-IMP: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round until lands are released from the Wilderness IMP. Lands are then managed as "Open": 0 acres. Limited - Level 5: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round, except as otherwise posted; with management option to close select lands to OHMV use from November 1 to May 31, except for designated routes; Snowmobiles restricted to designated areas in winter months: 432,663 acres. Limited - Level 6: Off-highway motorized vehicle use is limited to designated roads and trails year-round; Snowmobiles restricted to designated trails in winter months: 227,010 acres. Limited - Level 7: Off-highway motorized vehicle use is limited to designated roads and trails (jeep, ATV and/or motorcycle) year-round, except as otherwise posted; with management retaining the option to close lands to OHMV use from *(contd)*	and to designated motorcycle and ATV trails year-round, except as otherwise posted.0 acres. Limited - Level 4: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round; Snowmobiles restricted to designated areas in winter months: 13,117 acres. Limited - Level 4-IMP: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round until lands are released from the Wilderness IMP. Lands are then managed as "Open": 0 acres. Limited - Level 5: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round; lands are closed to OHMV use from November 1 to April 30, except for designated routes; Snowmobiles restricted to designated areas in winter months: 476,933 acres. Limited - Level 6: Off-highway motorized vehicle use is limited to designated roads and trails year-round; Snowmobiles restricted to designated trails in winter months: 13,345 acres. Limited - Level 7: Off-highway motorized vehicle use is limited to designated roads and trails year-round, except as otherwise posted; lands are closed to OHMV use from November 1 to April 30, except for designated routes: 92,417 acres. *(contd)*

OBJECTIVE	ALTERNATIVE A
RECT 1 (contd)	lands to OHMV use from (month-day) to (month-day), except for designated routes. (Dates can vary among administrative units). 0 acres. Closed: All lands are closed to off-highway motorized vehicle use year-round. 0 acres.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
evaluation shows that the limitations and restrictions are no longer appropriate and necessary. 3. Provide for multiple recreation uses as mandated by the Federal Land Policy & Management Act and the Outdoor Recreation Coordination Act by inventorying, evaluating and designating recreational areas and trails in accord with the following: a) Recognize that multiple recreation uses are mandated by the multiple use concept and that adequate outdoor recreation resources must be provided on the BLM administered lands. b) Identify and document damage which each of the multiple recreation uses has caused or threatens to cause to the various land and resource values identified by the Federal Land Policy & Management Act. c) Describe methods of minimizing or mitigating such identified damage and define the manner in which each method is expected to accomplish minimization or mitigation. d) Describe and document harassment to wildlife or substantial damage to wildlife habitats which each of the multiple recreation uses has caused or threatens to cause; and describe methods of minimizing or mitigating such damage, and define the manner in which each such method is	(month-day) to (month-day), except for designated routes. (Dates can vary among administrative units). 0 acres. Closed: All lands are closed to off-highway motorized vehicle use year-round: 244,367 acres.	Closed: All lands are closed to off-highway motorized vehicle use year-round: 338,974 acres. 2. Prohibit the construction of new vehicle routes for OHMV use within 1,000 feet of riparian and wetland areas, except at authorized crossings. 3. Prohibit the construction of new vehicle routes for OHMV use within 1,000 feet of known and future discovered paleontological and surface cultural sites. 4. Close and rehabilitate 70 miles of existing roads and jeep trails.

(contd)

OBJECTIVE	ALTERNATIVE A
RECT 1 (contd)	

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
expected to accomplish minimization or mitigation. e) Describe and document conflicts which exist or could exist between the various multiple recreation uses, further describe and document any incompatibility with the population which has occurred or could occur from each of the multiple recreation uses, and describe and document those methods of minimizing or mitigating such conflicts and incompatibility, describing and documenting the manner in which each such method is expected to accomplish minimization or mitigation. f) If it is determined after analysis of the best available data that particular areas and trails require limitation or restriction of certain of the multiple recreation uses, describe and document those limitations and restrictions and why they are necessary in order to minimize or mitigate particular damage, harassment, conflict or incompatibility, and provide for implementation of such limitations and restrictions through measures requiring the minimum level of limitation or restriction which will accomplish the necessary protection. 4. Annually evaluate the status of recreation designations, the impact on multiple land use by continuing the designations, and the impact on adequate outdoor recreation resources created by the designations. *(contd)*		

OBJECTIVE	ALTERNATIVE A
RECT 1 (contd)	

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
5. Utilize the following OHMV designations when classifying open and limited open OHMV use areas: Level IA - OHMV use is limited to existing roads, jeep trails, ATV and motorcycle trails, and historically used trails, as part of the trail system year-round. Planning documents and/or other agreements which alter recreation use must be formulated through consultation and cooperation with the Owyhee County Land Use Planning Committee, OHMV recreationist representative groups and BLM. No restrictions on snowmobile use. Level IB - OHMV use is limited to existing roads, jeep trails, ATV and motorcycle trails, and historically used trails, and recognizing sand washes as part of the trail system year-round; these trails include historically established OHMV racecourses and such racecourse modifications as determined through consultation and cooperation with the Owyhee County Land Use Planning Committee, OHMV recreationist representative groups and BLM. OHMV competitive events are permitted. No restrictions on snowmobile use. Where drought or saturated wet soil conditions exist, as determined through consultation and cooperation		

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OBJECTIVE	ALTERNATIVE A
RECT 1 (contd)	

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
with the Owyhee County Land Use Planning Committee, OHMV recreationist representative groups and BLM, historically established racecourses may be modified. Planning documents and/or other agreements which alter recreation use, including historically established racecourses, must be formulated through consultation and cooperation with the Owyhee County Land Use Planning Committee, OHMV recreationist representative groups and BLM. In times of saturated wet soil conditions, the racecourses may be modified to run below 4500 feet above sea level. In times of drought, the racecourses may be modified to run above 4500 feet above sea level. Soil and weather condition restrictions may vary among administrative units. Level IIA - OHMV use is limited to existing roads, jeep trails, ATV and motorcycle trails, and historically used trails, recognizing sand washes as part of the trail system unless conditions of drought or saturated wet soil conditions exist as determined through consultation and cooperation with the Owyhee County Land Use Planning Committee, OHMV recreationist representative groups and BLM. Soil and weather condition restrictions may vary among administrative units. Level IIA is for casual OHMV *(contd)*		

OBJECTIVE	ALTERNATIVE A
RECT 1 (contd)	

use and does not include OHMV competitive events. No restrictions on snowmobile use.

6. Manage OHMV recreational use on public lands in accordance with the following designations. See Map RECT-1B.

Open: 0 acres.

Level IA: OHMV use limited to existing roads, jeep trails, motorcycle/ATV trails, historically established trails and OHMV racecourses, and recognizing sand washes as part of trail system year-round. No restrictions on snowmobile use. 471,173 acres.

Level IB: OHMV use limited to existing roads, jeep trails, motorcycle/ATV trails, historically established trails and OHMV racecourses, and recognizing sand washes as part of trail system year-round. OHMV competitive events are permitted. Drought or saturated wet soil conditions may be determined to exist as determined through cooperation and consultation with the Owyhee County Land Use Planning Committee, OHMV recreationist groups and BLM. No restrictions on snowmobile use. 370,511 acres.

Level IIA: OHMV use limited to existing roads, jeep trails, motorcycle/ATV trails, historically established trails and OHMV racecourses, and recognizing sand washes as part of trail system year-round. OHMV competitive events are

(contd)

OBJECTIVE	ALTERNATIVE A
RECT 1 (contd)	

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
not permitted. Drought or saturated wet soil conditions may be determined to exist as determined through cooperation and consultation with the Owyhee County Land Use Planning Committee, OHMV recreationist groups and BLM. No restrictions on snowmobile use. 189,015 acres. BLM - Limited - Level 4-IMP(IA): Once the Wilderness IMP designation is released, Level IA is designated for OHMV use. No restrictions on snowmobile use. 288,952 acres. 7. Plan and establish designated equestrian, foot and OHMV trail systems for compatible recreation, commercial, and other multiple uses so that such uses can continue unabated.		

OBJECTIVE

RECT 2: Provide special management attention to areas of public land with identified special recreational, scenic, and cultural values where current and projected recreational demand warrants intensive management.

Rationale: The Federal Land Policy and Management Act (FLPMA; P.L. 94-579) provides for recreation use of public lands as an integral part of multiple-use management. Dispersed, unstructured activities typify the recreational uses occurring on most public lands. Federal regulations (43 CFR 8300) authorize the BLM to designate administrative units known as special recreation management areas (SRMAs) where there is a need to commit to a higher level of financial investment in recreational facilities and a higher level of managerial presence than is typical of most BLM lands. A SRMA designation signifies a long-term commitment to manage the physical, social, and managerial settings of an area to sustain specific activities and experience opportunities. The delineations are based upon administrative/managerial criteria that reflect congressional designations (such as national wild, scenic or recreational rivers), similar or interdependent recreation values, homogenous or interrelated recreation uses, land tenure and use patterns, transportation systems, administrative efficiency, intensity of use, high resource values, and public concern.

Monitoring: Specific monitoring needs are to be determined during the preparation of SRMA activity plans. These needs will generally include:

a. Periodic patrols (several times yearly) to check boundaries, signing, and recreational use.
b. Establishment of baseline data and photo points to determine current impacts from recreational use.
c. Rehabilitation of specific sites as necessary, including the development of recreation facilities to "harden" the sites against continued recreation use.
d. Development of "Limits of Acceptable Change" studies, where suitable, to help determine appropriate levels and patterns of recreational use, and the influences of other resource uses.

ALTERNATIVE A

1. Retain the boundaries of ten existing SRMA designations totaling 312,801 acres. See Map RECT-2A. Manage the SRMAs for identified recreational opportunities and experiences.

Blackstock: 6,149 acres: Semi-primitive motorized and roaded natural

Jump Creek: 8,667 acres: Roaded natural and semi-primitive nonmotorized

North Fork Owyhee Backcountry: 56,602 acres: Primitive and semi-primitive motorized

North Fork Canyon: 475 acres: Primitive and roaded natural

Owyhee Front: 180,940 acres: Semi-primitive motorized and roaded natural

Owyhee Canyonlands: 36,841 acres: Primitive and semi-primitive motorized (additional 5,627 acres in the Bruneau Resource Area)

Deep Creek: 5,882 acres: Primitive and roaded natural (additional 5,918 acres in the Bruneau Resource Area)

Silver City: 2,174 acres: Roaded natural and urban

Oregon National Historic Trail: 7,305 acres: Semi-primitive motorized and roaded natural

Snake River Birds of Prey: 7,766 acres: Semi-primitive motorized and roaded natural

(contd)

ALTERNATIVE B

1. As part of the multiple Recreation Management Action Plan developed pursuant to objective RECT 1, and in coordination with federal agencies and state and local government planning agencies, review and evaluate the SRMA categories which have been established in order to determine whether the characteristics which call for special recreational management continue in existence. If the characteristics no longer exist, re-categorize the land to the ERMA level. If the characteristics still exist then re-determine the boundaries for the SRMAs and identify and describe the specific reasons why special management techniques are needed.

2. In coordination with federal agencies and state and local government planning agencies, and in cooperation with interested members of the public, implement the special management techniques which documentation show to be necessary and provide ongoing evaluation to determine whether the SRMA category should continue, and to determine whether special management needs are being adequately met.

3. In coordination with federal agencies and state and local government planning agencies determine whether establishment of a SRMA constitute a major federal action, and, if so, follow the NEPA process in establishing such areas.

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ALTERNATIVE C

1. Retain or modify (reduce) the boundaries of nine existing SRMA designations totaling 302,425 acres. See Map RECT-2C. Manage the SRMAs for identified recreational opportunities and experiences.

Blackstock: 6,149 acres: Semi-primitive motorized and roaded natural

Jump Creek: 465 acres (reduced size): Roaded natural and semi-primitive nonmotorized

North Fork Owyhee Backcountry: 56,602 acres: Primitive and semi-primitive motorized

North Fork Canyon: 475 acres: Primitive and roaded natural

Owyhee Front: 180,940 acres: Semi-primitive motorized and roaded natural

Owyhee Canyonlands: 36,841 acres: Primitive and semi-primitive motorized (additional 5,627 acres in the Bruneau Resource Area)

Deep Creek: 5,882 acres: Primitive and roaded natural (additional 5,918 acres in the Bruneau Resource Area)

Oregon National Historic Trail: 7,305 acres: Semi-primitive motorized and roaded natural

Snake River Birds of Prey: 7,766 acres: Semi-primitive motorized and roaded natural

2. Designate and establish boundaries for an additional 46,405 acres of SRMA lands which are to be incorporated into other existing SRMAs. See Map

(contd)

ALTERNATIVE D

1. Retain the boundaries of six existing SRMA designations totaling 213,001 acres. See Map RECT-2D. Manage the SRMAs for identified recreational opportunities and experiences.

Blackstock: 6,149 acres: Semi-primitive motorized and roaded natural

Jump Creek: 8,667 acres: Roaded natural and semi-primitive nonmotorized

Owyhee Front: 180,940 acres: Semi-primitive motorized and roaded natural

Silver City: 2,174 acres: Roaded natural and urban

Oregon National Historic Trail: 7,305 acres: Semi-primitive motorized and roaded natural

Snake River Birds of Prey: 7,766 acres: Semi-primitive motorized and roaded natural

2. Substantially enlarge the boundaries of the Owyhee Canyonlands SRMA designation to incorporate 453,963 acres that include the lands contained in the North Fork Canyon, North Fork Owyhee Back Country and Deep Creek SRMAs, as well as surrounding ERMA lands. Manage for primitive, semi-primitive and roaded natural opportunities and experiences. There is an additional 11,545 acres of this SRMA in the BRA.

3. Designate and establish boundaries for an additional 52,211 acres of SRMA lands which are to be incorporated into

(contd)

OBJECTIVE	ALTERNATIVE A
RECT 2 (contd)	2. Designate 1,020,580 acres as an extensive recreation management area (ERMA) and manage primarily for semi-primitive motorized and roaded natural opportunities and experiences.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
4. Plan and establish designated equestrian, foot and OHMV trail systems for compatible recreation, commercial, and other multiple uses so that such uses can continue unabated. 5. Enter into memoranda of understanding (MOUs) with the Owyhee County Land Use Planning Committee, OHMV representative recreationist groups and BLM with regard to SRMAs where OHMV use historically has taken place to implement management techniques to provide for multiple recreation use which does not adversely conflict with other managed uses. 6. Enter into MOUs with the Owyhee County Land Use Planning Committee, OHMV representative recreationist groups and BLM with regard to extensive management areas where OHMV use historically has taken place to implement management techniques to provide for multiple recreation use which does not adversely conflict with other managed uses.	RECT-2C. Manage the SRMAs for identified recreational opportunities and experiences. North Fork Addition (North Fork Owyhee Backcountry)*: 209 acres: Primitive and semi-primitive motorized Current Creek Addition (Deep Creek)*: 567 acres: Roaded natural Guffey Butte Addition (SRBOP): 2,635 acres: Semi-primitive motorized and roaded natural Fossil Creek Addition (Owyhee Front): 23,524 acres: Semi-primitive motorized and roaded natural Squaw Creek Addition (Owyhee Front): 19,470 acres: Semi-primitive motorized and roaded natural * These two additions to existing SRMAs are in response to wild and scenic river suitability recommendations for the upper North Fork Owyhee River and Current Creek. Should these river segments not be designated by Congress, these SRMA additions will be dropped and included in the ERMA. 3. Designate 984,551 acres as an extensive recreation management area (ERMA) and manage primarily for semi-primitive motorized and roaded natural opportunities and experiences. The ERMA will include what was the Silver City SRMA (2,174 acres) and much of the Jump Creek SRMA (7,740 acres).	other existing SRMAs. See Map RECT-2D. Manage the SRMAs for identified recreational opportunities and experiences. Guffey Butte Addition (SRBOPA): 2,635 acres: Semi-primitive motorized and roaded natural Fossil Creek Addition (Owyhee Front): 23,524 acres: Semi-primitive motorized and roaded natural Squaw Creek Addition (Owyhee Front): 26,052 acres: Semi-primitive motorized and roaded natural 4. Designate and establish boundaries for a 2,480-acre Boulder Creek SRMA to manage for primitive opportunities and experiences. See Map RECT-2D. This SRMA designation is in response to a wild and scenic river suitability recommendation for the eligible Boulder Creek-Rock Creek segment. Should this segment not be designated by Congress, the SRMA designation will be dropped and included in the ERMA. 5. Designate 611,726 acres as an extensive recreation management area (ERMA) and manage primarily for semi-primitive motorized and roaded natural opportunities and experiences.

OBJECTIVE	ALTERNATIVE A
RECT 3: Determine the suitability of all eligible rivers and streams for inclusion in the National Wild and Scenic Rivers System. **Rationale:** The National Wild and Scenic Rivers Act (P.L. 90-542), Section 5(d), requires the Secretary of the Interior to identify "river" segments which are eligible to receive consideration as potential wild, scenic, and recreational river areas. Section 5(d) further directs the Secretary to determine which eligible river segments should be evaluated in the BLM planning process "... as alternatives to the developments being planned." This evaluation is referred to as the suitability determination. The procedures by which the BLM determines eligibility and suitability are described in 43 CFR 8351 (Designated National Areas) and the USDI-USDA Final Revised Guidelines for Eligibility, Classification, and Management of River Areas (47 FR 39454). **Monitoring:** Periodic (several times per year) patrols to check boundaries and affected river corridor lands, signing, and recreational use. Establishment of baseline data and photo plots to determine current impacts from recreation use. Rehabilitation of specific sites as necessary, including the construction of small recreation sites at launch sites and take-outs, and the construction of portage trails around unrunnable or dangerous rapids. Undertake "Limits of Acceptable Change" studies on affected river corridors to determine the appropriate level and pattern of recreation use, and the influences of other resource uses.	1. Recommend to the Secretary of the Interior that 94.0 miles of eligible rivers and streams are suitable for national wild, scenic, or recreational river designation. South Fork Owyhee River: Wild: 26.5 miles South Fork Owyhee River: Recreation: 1.5 miles East Fork Owyhee River: Wild: 66.0 miles 2. Provide for interim protection of wild, scenic, and recreational river values while awaiting a determination by Congress. See Appendix RECT-1 for management standards for the three river classifications.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Study rivers and segments of rivers for potentiality for designation by the Congress in accord with provisions of the National Wild and Scenic Rivers Act, identifying, describing and documenting the characteristics of the river or river segment and its immediate environment which make it "outstandingly remarkable" as to scenery, recreation opportunities, geologic features, fish and wildlife habitats, historical characteristics, cultural characteristics, or other similar values which can be specifically identified and defined. A recommendation to designate 66 miles of the East Fork Owyhee River as Wild has been forwarded to Congress for consideration. No additional recommendations are identified in this alternative.	1. Recommend to the Secretary of the Interior that 163.0 miles of eligible rivers and streams are suitable for national wild, scenic, or recreational river designation. South Fork Owyhee River: Wild: 26.5 miles South Fork Owyhee River: Recreational: 1.5 miles East Fork Owyhee River: Wild: 66.0 miles Deep Creek: Wild: 32.0 miles Nickel Creek: Wild: 8.0 miles Current Creek: Wild: 7.5 miles Current Creek: Scenic: 1.5 miles Lower North Fork Owyhee River: Scenic: 4.0 miles Upper North Fork Owyhee River: Wild: 16.0 miles	1. Recommend to the Secretary of the Interior that 223.0 miles of eligible rivers and streams are suitable for national wild, scenic, or recreational river designation. South Fork Owyhee River: Wild: 26.5 miles South Fork Owyhee River: Recreational: 1.5 miles East Little Owyhee River: Wild: 9.0 miles East Little Owyhee River: Recreational: 0.5 miles East Fork Owyhee River: Wild: 66.0 miles Bald Mountain Canyon Creek: Wild: 3.0 miles Piute Creek: Wild: 3.0 miles Juniper Creek (East Fork): Wild: 3.0 miles Dukes Creek: Wild: 3.0 miles Deep Creek: Wild: 32.0 miles Nickel Creek: Wild: 8.0 miles Red Canyon Creek: Wild: 4.0 miles Petes Creek: Wild: 3.0 miles Current Creek: Wild: 7.5 miles Current Creek: Scenic:1.5 miles Corral Creek (Current Creek): Wild 3.0 miles Lower North Fork Owyhee River: Wild: 4.0 miles Upper North Fork Owyhee River: Wild: 16.0 miles Juniper Creek: Wild: 1.5 miles Cabin Creek: Wild: 3.5 miles Corral Creek (North Fork): Wild: 1.0 miles Noon Creek: Wild: 3.0 miles Pleasant Valley Creek: Wild: 3.5 miles Boulder Creek-Rock Creek: Wild: 11.5 miles Jump Creek: Wild: 4.0 miles Jump Creek: Recreational: 0.5 miles *(contd)*
2. Provide for continued multiple recreation uses as mandated by the Federal Land Policy and Management Act and the Outdoor Recreation Coordination Act while conducting such potentiality studies.	2. Provide for interim protection of wild, scenic, and recreational river values while awaiting a determination by Congress. See Appendix RECT-1 for management standards for the three river classifications.	
3. Where wild and scenic river designation is established by law, historically established right-of-ways for OHMV and other recreation access crossing shall be maintained.		
4. Plan and establish designated equestrian, foot and OHMV trail systems for compatible recreation, commercial, and other multiple uses so that such uses can continue unabated.		

OBJECTIVE	ALTERNATIVE A
RECT 3 (contd)	
RECT 4: Provide for high quality recreational opportunities and experiences at developed and undeveloped recreation sites by maintaining existing amenities (roaded natural, urban and semi-primitive motorized settings) and by providing new recreation sites for the public's enjoyment, with emphasis on roaded natural and semi-primitive motorized settings. **Rationale:** The BLM is committed to maintaining recreation facilities to a standard that protects the resource, the public and the public investment, and fosters pride of public ownership, and to developing appropriate recreation facilities, balancing public demand, protection of public land resources, and fiscal responsibility. BLM planning guidance requires the BLM to coordinate with other federal and state plans such as the Idaho Statewide Comprehensive Outdoor Recreation Plan (SCORP) from the Idaho Department of Parks and Recreation and the River Basin Plans of the Idaho Department of Water Resources, and include applicable data and findings in BLM planning documents. Data taken from the Idaho SCORP indicates that overall recreation use in the ORA in 2015 will be 70% above 1995 use levels; placing increased demand on existing recreation facilities and warranting consideration of new sites and facilities. **Monitoring:** Periodic (bi-weekly, weekly or monthly) patrols by maintenance staff to check facilities and recreational use. Periodic patrols by BLM Ranger(s) to assure visitor compliance with regulations concerning the appropriate use of public lands.	1. Maintain existing recreational facilities at four (4) recreation sites (See Map RECT-2A): Hemingway Butte OHV Trailhead Rabbit Creek OHV Trailhead Fossil Creek OHV Trailhead North Fork Campground 2. Upgrade, reconstruct and/or increase recreation facilities at seven (7) recreation sites (See Map RECT-2A): Jump Creek Recreation Site Little Squaw Creek Dog Trial Site Silver City Campground Ruby Junction Recreation Site Trout Springs Hunter Camp Castlehead Springs Hunter Camp Garat Crossing Launch Site 3. Construct at least three additional recreation sites (See Map RECT-2A): North Fork Owyhee Backcountry trailheads - two sites. Other sites as may be appropriate. 4. Maintain undeveloped recreation sites throughout the Owyhee Resource Area to protect public health and safety.

ALTERNATIVE B

1 Maintain existing facilities at following recreational sites (See Map RECT-2B):
- a) Hemingway Butte OHMV Trailhead and surrounding area.
- b) Rabbit Creek OHMV Trailhead and surrounding area.
- c) Fossil Creek OHMV Trailhead and surrounding area.
- d) North Fork Campground and surrounding area.

Certain damaged hillclimb areas may be posted as restricted after proper consultation and coordination between the Owyhee County Land Use Planning Committee, OHMV recreationist representative groups and BLM. Such posting is temporary and must be monitored for opening. It shall be recognized that the Hemingway Butte OHMV Trailhead, the Rabbit Creek OHMV Trailhead, the Fossil Creek OHMV Trailhead, the North Fork Campground, and their respective surrounding areas were established with concentrated OHMV use as an expected impact. These areas should be managed and maintained with the understanding that concentrated OHMV use will be ongoing.

(contd)

ALTERNATIVE C

1. Maintain existing recreational facilities at four (4) recreation sites (See Map RECT-2C):
   Hemingway Butte OHV Trailhead.
   Rabbit Creek OHV Trailhead.
   Fossil Creek OHV Trailhead.
   North Fork Campground.

2. Upgrade, reconstruct and/or increase recreation facilities at seven (7) recreation sites (See Map RECT-2C):
   Jump Creek Recreation Site.
   Little Squaw Creek Dog Trial Site.
   Silver City Campground.
   Ruby Junction Recreation Site.
   Trout Springs Hunter Camp.
   Castlehead Springs Hunter Camp.
   Garat Crossing Launch Site.

3. Construct at least seven additional recreation sites (See Map RECT-2C):
   Guffey Butte Addition - response to additional needs identified by Canyon and Owyhee Counties.

   Owyhee Front equestrian trailheads - two sites.

   Owyhee Uplands National Back Country Byway campgrounds - not to exceed two sites.

(contd)

ALTERNATIVE D

2. Provide for interim protection of wild, scenic, and recreational river values while awaiting a determination by Congress. See Appendix RECT-1 for management standards for the three river classifications.

1. Maintain existing recreational facilities at three (3) recreation sites (See Map RECT-2D):
   Rabbit Creek OHMV Trailhead.
   Fossil Creek OHMV Trailhead.
   North Fork Campground.

2. Upgrade, reconstruct and/or increase recreation facilities at seven (7) recreation sites (See Map RECT-2D):
   Jump Creek Recreation Site.
   Little Squaw Creek Dog Trail Site.
   Silver City Campground.
   Ruby Junction Recreation Site.
   Trout Springs Hunter Camp.
   Castlehead Springs Hunter Camp.
   Garat Crossing Launch Site.

3. Construct at least seven additional recreation sites (See Map RECT-2D):
   Guffey Butte Addition - response to additional needs identified by Canyon and Owyhee Counties.

   Owyhee Front equestrian trailheads - two sites.

   Owyhee Uplands National Back Country Byway campgrounds - not to exceed two semi-developed sites.

(contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
2. Upgrade, reconstruct and/or increase recreation facilities at following recreation sites (See Map RECT-2B): a) Jump Creek Recreation site and surrounding area. b) Little Squaw Dog Trial site and surrounding area. c) Silver City Campground and surrounding area. d) Ruby Junction Recreation Site and surrounding area. e) Trout Springs Hunter Camp and surrounding area. g) Castlehead Springs Hunter Camp and surrounding area. h) Garat Crossing Launch Site and surrounding area.	North Fork Owyhee Backcountry trailheads - two sites. Other sites as may be appropriate.	North Fork Owyhee Backcountry trailheads - two semi-developed sites. Other sites as may be appropriate.
3. Construct at additional recreational facilities or sites as agreed by consultation and coordination between the Owyhee County Land Use Planning Committee, OHMV recreationist groups, other representative recreationist groups, and the BLM. Allow for mountain bike use and appropriate facilities.	4. Maintain undeveloped recreation sites throughout the Owyhee Resource Area to protect public health and safety.	4. Maintain undeveloped recreation sites throughout the Owyhee Resource Area to protect public health and safety. 5. Close and remove the Hemingway Butte OHV Trailhead recreation site and associated trails.

OBJECTIVE	ALTERNATIVE A
RECT 5: Develop a trail system that provides a range of motorized and nonmotorized recreation opportunities for the public's enjoyment of primitive, semi-primitive nonmotorized, semi-primitive motorized, and roaded natural settings. **Rationale:** The Federal Land Policy and Management Act (FLPMA; P.L. 94-579) provides for the recreational use of public lands as an integral part of multiple-use management. In accordance with this law, the BLM is committed to providing and maintaining a wide diversity of recreation opportunities on public lands, including opportunities to utilize developed trail systems. Idaho's SCORP identifies the role of federal agencies to develop dispersed facilities such as trails to meet existing and projected demand. There is increasing demand by user groups and local government entities to expand the trail system to accommodate a variety of trail opportunities. **Monitoring:** Periodic patrols by maintenance staff to check trail facilities and recreational use. Patrols will be weekly, monthly or several times a year depending on trail location. Periodic patrols by BLM Ranger(s) to assure visitor compliance with regulations concerning the appropriate use of public lands. Periodic (monthly) patrols of the road corridor to check signing and vehicle use, as well as roadway safety.	1. Establish planning corridors for the consideration of foot/ equestrian trail systems to further public opportunities to safely enjoy recreational settings in the following areas: North Fork Owyhee Backcountry SRMA - foot/ equestrian travel; utilize necessary bridges to allow for crossing of the river channel at isolated locations during high flow periods. Owyhee Canyonlands SRMA - portage trails around Owyhee Falls and Thread the Needle Rapid on the East Fork Owyhee River. 2. No mountain bike trails in Alterantive A. 3. Dedicate and protect the Owyhee Upland National Back Country Byway's existing roaded natural opportunities. Provide for the upgrading of the Byway to ensure public safety and to enhance recreational opportunities associated with the corridor's roaded natural setting. 4. Maintain existing motorized vehicle opportunities consistent with OHMV designations and subject to congressional wilderness designations. 5. Manage the Oregon National Historic Trail in accordance with the Oregon Trail Comprehensive Management and Use Plan (National Park Service, USDI August, 1981) and Oregon Trail Management Plan (BLM, Boise District, 1984), or as may be amended. *(contd)*

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Enter into memoranda of understanding (MOUs) with the Owyhee County Land Use Planning Committee, OHMV representative recreationist groups and BLM with regard to SRMAs where OHMV use historically has taken place to implement management techniques to provide for multiple recreation use which does not adversely conflict with other managed uses. 2. Enter into MOUs with the Owyhee Land Use Planning Committee, OHMV representative recreationist groups and BLM with regard to extensive management areas where OHMV use historically has taken place to implement management techniques to provide for multiple recreation use in accordance with the Oregon Trail Comprehensive Management and Use Plan, National Park Service, and USDI.	1. Establish planning corridors for the consideration of foot/ equestrian trail systems to further public opportunities to safely enjoy recreational settings in the following areas: North Fork Canyon SRMA - foot travel only; utilize necessary bridges to allow for repeated crossing of the river channel during high flow periods. North Fork Owyhee Backcountry SRMA - foot/ equestrian travel; utilize necessary bridges to allow for crossing of the river channel at isolated locations during high flow periods. Owyhee Canyonlands SRMA - portage trails around Owyhee Falls and Thread the Needle Rapid on the East Fork Owyhee River. Snake River Birds of Prey SRMA (Guffey Butte Addition) - foot/equestrian trail around Guffey Butte in conjunction with the Canyon County Celebration Park site. Jump Creek SRMA - trails leading away from the Jump Creek Recreation Site into and above the canyon as resource damage warrants. Owyhee Front SRMA - trails leading away from the equestrian trailheads on lands not affected by wild horse herd management areas. *(contd)*	1. Establish planning corridors for the consideration of foot/ equestrian trail systems to further public opportunities to safely enjoy recreational settings in the following areas: North Fork Canyon SRMA - foot travel only; no bridge construction to occur. North Fork Owyhee Backcountry SRMA - foot/ equestrian travel; no bridge construction to occur. Owyhee Canyonlands SRMA - primitive portage trails around Owyhee Falls and Thread the Needle Rapid on the East Fork Owyhee River. Snake River Birds of Prey SRMA (Guffey Butte Addition) -foot/equestrian trail around Guffey Butte in conjunction with the Canyon County Celebration Park site. Jump Creek SRMA - trails leading away from the Jump Creek Recreation Site into and above the canyon as resource damage warrants. Owyhee Front SRMA - trails leading away from the equestrian trailheads on lands not affected by wild horse herd management areas. 2. Develop a mountain bike trail program throughout the ORA utilizing existing dirt roads and trails within the ORA. 3. Dedicate and protect the Owyhee Upland National Back Country Byway's existing roaded *(contd)*

OBJECTIVE	ALTERNATIVE A
RECT 5 (contd)	

ALTERNATIVE B

ALTERNATIVE C

2. Develop a mountain bike trail program utilizing existing dirt roads and trails within the ORA.

3. Dedicate and protect the Owyhee Upland National Back Country Byway's existing roaded natural opportunities. Provide for the upgrading of the Byway to ensure public safety and to enhance recreational opportunities associated with the corridor's roaded natural setting.

4. Modify existing motorized vehicle opportunities consistent with OHMV designations and subject to congressional wilderness designations.

5. Manage the Oregon National Historic Trail in accordance with the Oregon Trail Comprehensive Management and Use Plan (National Park Service, USDI August, 1981) and Oregon Trail Management Plan (BLM, Boise District, 1984), or as may be amended.

ALTERNATIVE D

natural opportunities. Provide for the upgrading of the Byway to ensure public safety and to enhance recreational opportunities associated with the corridor's roaded natural setting.

4. Modify existing motorized vehicle opportunities consistent with OHMV designations and subject to congressional wilderness designations. Place directional, landmark (stream names, etc.), informational (regulatory), and interpretive signing along roads and trails in, but not necessarily limited to, the following locations:

   Owyhee Front area (ERMA/ SRMA)

   Snake River Birds of Prey SRMA

   Silver City area (ERMA)

   Triangle Road (ERMA)

   Owyhee Canyonlands SRMA (including the Owyhee Uplands National Back Country Byway)

5. Manage the Oregon National Historic Trail in accordance with the Oregon Trail Comprehensive Management and Use Plan (National Park Service, USDI August, 1981) and Oregon Trail Management Plan (BLM, Boise District, 1984), or as may be amended.

OBJECTIVE	ALTERNATIVE A
RECT 6: Pursue increased public access opportunities in motorized and nonmotorized settings through the acquisition of fee titles or recreational easements (willing landowners only). **Rationale:** BLM is committed to enhancing recreational opportunities through land ownership adjustments, increased and improved access, and other acquisitions. **Monitoring:** Monitoring of recreational use on affected non-federal properties. Monitoring for easement compliance. Periodic (bi-weekly) patrols by maintenance staff to check road conditions and recreational use. Periodic patrols by BLM Ranger(s) to assure visitor compliance with regulations concerning the appropriate use of public lands.	1. Pursue recreational easements that allow for motorized access. 2. Pursue the purchase (fee title) of select properties which would enhance recreation opportunities. 3. Upgrade access roads from dirt to gravel into the N.Fk. Owyhee BC SRMA trailhead locations.
RECT 7: Retain at least 10% of the ORA in a primitive recreational opportunity (ROS) setting. **Rationale:** The Federal Land Policy and Management Act (FLPMA; P.L. 94-579), Section 102 (8), declares as policy that "...the public lands be managed in a manner that will protect the quality of the scenic resources...that, where appropriate, will preserve and protect certain public lands in their natural condition." At present, only 13% of the ORA retains a primitive setting (Resource Opportunity Spectrum classification). **Monitoring:** Periodic updating of recreation opportunity spectrum (ROS) inventory. Application of ROS consideration through NEPA review.	1. Prohibit construction of new rangeland (livestock, watershed, and wildlife) facilities within the primitive settings of the SRMA lands affected by the Owyhee River system. See Map RECT-1. The affected SRMAs are: North Fork Canyon SRMA. North Fork Owyhee Backcountry SRMA. Owyhee Canyonlands SRMA. Deep Creek SRMA.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Pursue public and private easements and rights-of-way which will allow for motorized access for OHMV and other similar recreationist use.	1. Pursue recreational easements that allow for motorized access. 2. Pursue the purchase (fee title) of select properties which would enhance recreation opportunities. 3. Upgrade access roads from dirt to gravel into the North Fork Owyhee Backcountry SRMA trailhead locations.	1. Pursue recreational easements that allow for motorized access. 2. Pursue the purchase (fee title) of select properties which would enhance recreation opportunities. 3. Retain access roads into the North Fork Owyhee Backcountry SRMA as low-standard dirt surface routes to maintain semi-primitive motorized opportunities.
1. Permit construction of new rangeland facilities (livestock, watershed and wildlife) and improvements when necessary for purpose of rangeland protection and effective resource management.	1. Prohibit the construction of new rangeland (livestock, watershed, and wildlife) facilities within the primitive settings of the SRMA lands affected by the Owyhee River system. See Map RECT-1. The affected SRMAs are: North Fork Canyon SRMA. North Fork Owyhee Backcountry SRMA. Owyhee Canyonlands SRMA. Deep Creek SRMA.	1. Prohibit the construction of new rangeland (livestock, watershed, and wildlife) facilities within the primitive settings of the enlarged Owyhee Canyonlands SRMA which surrounds the Owyhee River system. See Map RECT-1.

WILDERNESS

WNES 1: Manage wilderness study areas so as not to impair their suitability for potential designation as wilderness.

Rationale: Section 603 of the Federal Land Policy and Management Act (FLPMA) requires that all public lands be inventoried for the presence of wilderness characteristics. Those found to have wilderness characteristics are identified as wilderness study areas (WSAs) and are to be managed for the protection of wilderness values until such time that Congress can act on wilderness suitability recommendations prepared for each WSA. The Idaho BLM Wilderness Study Report was approved by the Secretary of the Interior in 1992 for submission to the President and Congress. The wilderness study areas in the Owyhee Resource Area are:

WSA #	WSA Name	Acreage
ID-16-40	North Fork Owyhee River	50,865
ID-16-41	Big Willow Spring	6,210
ID-16-42	Squaw Creek Canyon	10,780
ID-111(16)-44	Upper Deep Creek	530
ID-16-45	Middle Fork Owyhee River	14,820
ID-16-47	West Fork Red Canyon	12,970
ID-16-48A (OR-3-194)	Lookout Butte	34,400
ID-16-48B (OR-3-195)	Owyhee River Canyon	35,620
ID-16-48C	Little Owyhee River	24,790
ID-16-49A	Owyhee River-Deep Creek	52,090
ID-16-49D	Yatahoney Creek	4,745
ID-16-52	Juniper Creek	5,855
ID-16-53 (NV-010-103A)	South Fork Owyhee River	44,955
Total		298,630

See Map WNES-1 and Table WNES-1 for additional information.

Monitoring: Implement generic monitoring standards as specified in the Boise District IMP Plan and the Owyhee IMP Implementation Plan.

1. Ensure that WSA lands and Section 202 study lands remain substantially natural in character, retain outstanding opportunities for solitude and/or primitive recreation experiences, and support supplemental wilderness values.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Plan for and provide for nondegrading range improvement activities. 2. Plan for and provide for nonimpairing facilities for public enjoyment of wilderness values. 3. Plan and provide construction, use and maintenance of nondegradinng livestock management facilities. 4. Upon a finding of Congress not to designate a Wilderness Study Area as wilderness, then return management policies for that area to those consistent with the non-wilderness full multiple use concept mandated by the Federal Land Policy & Management Act and Public Rangelands Improvement Act.	1. Ensure that WSA lands and Section 202 study lands remain substantially natural in character, retain outstanding opportunities for solitude and/or primitive recreation experiences, and support supplemental wilderness values.	1. Ensure that WSA lands and Section 202 study lands remain substantially natural in character, retain outstanding opportunities for solitude and/or primitive recreation experiences, and support supplemental wilderness values. 2. Within two years of the RMP decision, provide for public education of the wilderness values of the WSAs and future designated wilderness. 3. Manage all WSA and Section 202 study lands to be consistent with wilderness designation. In no case should management actions compromise the suitability of an area for future wilderness designation.

OBJECTIVE

WNES 2: Following any enabling legislation, manage designated wilderness areas to ensure an enduring wilderness resource.

Rationale: The Federal Land Policy and Management Act recognizes wilderness as an integral part of the spectrum of multiple uses of public lands. Lands designated as wilderness are to be managed into perpetuity for the protection of wilderness and other multiple-use values in accordance with the Wilderness Act of 1964 and the BLM's Wilderness Management Policy (September 24, 1981). The Idaho BLM Wilderness Study Report was approved by the Secretary of the Interior in 1992. The President submitted these wilderness recommendations to Congress in September of 1992. The recommendations for wilderness in the Owyhee Resource Area are:

WSA #	WSA Name	Acreage
ID-16-40	North Fork Owyhee River	41,025
ID-16-48B	Owyhee River Canyon	35,620
ID-16-48C	Little Owyhee River	16,330
ID-16-49A	Owyhee River - Deep Creek	47,840
ID-16-49D	Yatahoney Creek	4,425
ID-16-52	Juniper Creek	5,785
ID-16-53	South Fork Owyhee River	44,955
Total		195,980

See Map WNES-1 and Table WNES-2 for additional information.

Monitoring: Monitoring needs are to be determined by specific wilderness management plans.

ALTERNATIVE A

1. Manage designated wilderness so that natural ecological, geological, hydrological, biological and edaphic processes will operate freely.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Manage designated wilderness in accordance with enabling legislation and the Wilderness Act of 1964. 2. Upon a finding of Congress not to designate a Wilderness Study Area as wilderness, return management policies for that area to those consistent with the non-wilderness full multiple use concept mandated by the Federal Land Policy and Management Act and the Public Rangelands Improvement Act.	1. Manage designated wilderness so that natural ecological, geological, hydrological, biological and edaphic processes will operate freely.	1. Manage designated wilderness so that natural ecological, geological, hydrological, biological and edaphic processes will operate freely. (Additional WSA and non-WSA lands may be recommended for congressional designation by environmental organizations outside of the BLM planning process.)

VISUAL RESOURCES

VISL 1: Manage public lands for visual resource values under Visual Resource Management (VRM) classifications.

Rationale: The Federal Land Policy and Management Act (FLPMA; P.L. 94-579), Section 102(8), declares as policy that public lands will be managed to "... protect the quality of the scenic values... that, where appropriate, will preserve and protect certain public lands in their natural condition." The National Environmental Policy Act (NEPA; P.L. 9-190), Section 101(b), requires federal agencies to "... assure for all Americans... estheticly pleasing surroundings." Section 102 of NEPA requires agencies to "...utilize a systematic, interdisciplinary approach which will ensure the integrated use of ... Environmental Design Acts in the planning and decision making..." process. Guidelines for the identification of VRM classes on public lands is contained in BLM Manual Handbook 8410-1, Visual Resource Inventory. The establishment of VRM areas is based upon an evaluation of the landscapes' scenic qualities, public sensitivity toward certain areas (such as special recreation designations or wilderness), and the location of affected lands from major travel corridors (distance zoning).

Monitoring: In VRM Class I and Class II areas, on-site visual quality control inspections will occur at the time of project construction, reconstruction, and maintenance.

In VRM Class III and IV areas, ongoing quality control inspections of ORA project work in general will be done, however, attendance at specific project sites during construction, reconstruction, and maintenance will not be required.

1. Classify and manage public lands under the following VRM classifications:

Class I:	0 acres
Class II:	298,376 acres
Class II-IMP:	124,810 acres
Class III areas:	146,881 acres
Class IV areas:	749,584 acres

See Map VISL-A.

See Appendix VISL-1 for classification objectives.

CULTURAL RESOURCES

CULT 1: Protect known cultural resource values from loss until their significance is determined.

Rationale: The National Historic Preservation Act of 1966 identifies federal agency responsibilities to preserve prehistoric and historic cultural resources. Cultural resource sites are deteriorating from the effects of vandalism and neglect.

Monitoring: Monitor three cultural resource sites per year to determine site condition and mitigation needs.

1. Mitigate the negative impacts to cultural resource sites known to be suffering the effects of agents of deterioration.

2. Develop management strategies to ensure preservation of cultural resource values within specific areas known to contain concentrations of unique or significant cultural resource sites.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Classify and manage public lands under the following VRM classifications: Class I: 0 acres Class II: 298,376 acres Class II - IMP: 124,810 acres Class III areas: 146,881 acres Class IV areas: 749,584 acres See Map VISL-B. See Appendix VISL-1 for classification objectives. 2. In coordination with federal agencies and state and local government planning agencies, and in cooperation with interested members of the public, design and implement a management action plan which provides for re-evaluation of current classifications and establishment of classifications based upon specific criteria which comply with the Federal Lands Policy & Management Act.	1. Classify and manage public lands under the following VRM classifications: Class I areas: 71,313 acres Class II areas: 242,088 acres Class II-IMP areas: 123,464 acres Class III areas: 144,748 acres Class IV areas: 738,038 acres See Map VISL-C. See Appendix VISL-1 for classification objectives.	1. Classify and manage public lands under the following VRM classifications: Class I areas: 310,486 acres Class II areas: 661,993 acres Class II-IMP areas: 0 acres Class III areas: 347,172 acres Class IV areas: 0 acres See Map VISL-D. See Appendix VISL-1 for classification objectives.
1. Establish mitigation measures to reduce adverse impacts to certain appropriate sites, and to provide for the protection and conservation of unique cultural resources. 2. Select three (3) cultural resource sites to be evaluated on an annual basis to track any changes in site characteristics such as deterioration or vandalism.	1. Mitigate the negative impacts to cultural resource sites known to be suffering the effects of agents of deterioration. 2. Develop management strategies to ensure preservation of cultural resource values within specific areas known to contain concentrations of unique or significant cultural resource sites.	1. Eliminate the negative impacts to cultural resource sites known to be suffering the effects of agents of deterioration. 2. Develop management strategies to ensure preservation of cultural resource values within specific areas known to contain concentrations of unique or significant cultural resource sites.

OBJECTIVE	ALTERNATIVE A
CULT 2: Provide special management emphasis for the protection and conservation of significant cultural resource sites and values. **Rationale:** The National Historic Preservation Act of 1966 provides for the protection of cultural resource values on land managed by federal agencies and identifies federal agency responsibilities to preserve prehistoric and historic cultural resources. **Monitoring:** According to schedule outlined in the Oregon Trail Management Plan and the Birds of Prey Cultural Resource Management Plan. Make three site visits per year to ensure Silver City homeowner compliance with Owyhee County Historic Preservation Committee recommendations.	1. Protect the integrity of those portions of the eighty mile Oregon Trail and associated cultural resource sites on public land. See Map CULT-1. 2. Manage the existing Silver City, DeLamar and Guffey Butte/ Black Butte Historic Districts in accordance with Section 110 of the National Historic Preservation Act of 1966. See Map CULT-1. 3. Manage the existing Guffey Butte/Black Butte Archaeological District ACEC to protect cultural resource values. See Table ACEC-A.
CULT 3: Increase the opportunity for educational, recreational, socio-cultural and scientific uses of cultural resources. **Rationale:** The National Historic Preservation Act of 1966 identifies federal agency responsibilities to preserve prehistoric and historic cultural resources. Public participation in the preservation process is essential to prevent continued loss of cultural values. **Monitoring:** Normal BLM accomplishment tracking process.	1. Participate in cooperation with other state and federal agencies and private entities to conduct public outreach programs including "Archaeology Week" and other cultural resource related events.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. Protect the integrity of those portions of the Oregon Trail and associated cultural resource sites on BLM administered lands. See Map CULT-1.	1. Protect the integrity of those portions of the eighty mile Oregon Trail and associated cultural resource sites on public land. See Map CULT-1.	1. Protect the integrity of those portions of the eighty mile Oregon Trail and associated cultural resource sites on public land. See Map CULT-1.
2. Manage the existing Silver City, DeLamar, and Guffey Butte/ Black Butte Historic Districts in accordance with Section 110 of the National Historic Preservation Act of 1966. See Map CULT-1.	2. Manage the existing Silver City, DeLamar and Guffey Butte/ Black Butte Historic Districts in accordance with Section 110 of the National Historic Preservation Act of 1966. See Map CULT-1.	2. Manage the existing Silver City, DeLamar and Guffey Butte/ Black Butte Historic Districts in accordance with Section 110 of the National Historic Preservation Act of 1966. See Map CULT-1.
3. Manage the proposed Guffey Butte/Black Butte Archaeological District ACEC to protect cultural resources. See Table ACEC-B.	3. Manage the existing Guffey Butte/Black Butte Archaeological District ACEC to protect cultural resource values. See Table ACEC-C.	3. Manage the existing Guffey Butte/Black Butte Archaeological District ACEC to protect cultural resource values. See Table ACEC-D.
4. Identify designation criteria for establishment of any archaeological ACEC in accordance with NEPA policies and procedures.	4. Designate Lambert Table, Rooster Comb Peak and Sinker Creek as ACECs and manage to protect cultural values. See Table ACEC-C.	4. Designate Lambert Table, Rooster Comb Peak and Sinker Creek as ACECs and manage to protect cultural values. See Table ACEC-D.
5. Nominate appropriate site/ areas to the national register of historic places only in accordance with the policies and procedures outlined in NEPA.	5. Nominate sites/areas that qualify to the National Register of Historic Places and prepare Cultural Resource Management Plans for those sites.	5. Nominate sites/areas that qualify to the National Register of Historic Places and prepare Cultural Resource Management Plans for those sites.
1. In coordination with federal agencies and state and local government agencies, and in cooperation with interested members of the public and private entities, provide for public outreach programs including Archaeology Week and other cultural resource related events.	1. Participate in cooperation with other state and federal agencies and private entities to conduct public outreach programs including "Archaeology Week" and other cultural resource related events.	1. Participate in cooperation with other state and federal agencies, private entities, and universities to conduct public outreach programs including "Archaeology Week" and other cultural resource related events.
		2. Survey a minimum of 20 sites each year to determine site condition and provide data for developing management actions.

OBJECTIVE	ALTERNATIVE A
HAZARDOUS MATERIALS **HAZM 1:** Reduce the occurrence and severity of hazardous material incidences on public lands. **Rationale:** Federal agencies are required to comply with all federal and state laws, regulations and policies regarding hazardous materials on public lands. The Secretary's waste management initiative commits the Bureau to reducing hazardous material situations on public lands. **Monitoring:** Periodic review of NEPA documents. Field review of compliance. Yearly assessment of reported sites. Follow-up monitoring to be developed on a case-by-case basis.	1. Ensure that hazardous material and potential hazardous material problems associated with BLM authorized land use actions are identified. 2. Increase law enforcement actions to reduce the amount of illegal disposal of hazardous wastes on public lands. 3. Implement remediation/ removal actions for hazardous waste sites in a timely and efficient manner.

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1. In coordination with federal agencies and state and local government planning agencies and in cooperation with interested members of the public, and utilizing the NEPA process, develop and implement a Management Action Plan which includes the following: a) Defines "hazardous materials". b) Identifies the presence of hazardous materials on the BLM administered lands. c) Catalogs the presence and use of such materials. d) Evaluates the presence and use for purposes of determining the lawfulness of the presence and use of such materials. e) Provides for elimination or mitigation of unlawful presence and use of hazardous materials. f) Prevents incidents where lawful presence and use of hazardous materials is found.	1. Ensure that hazardous material and potential hazardous material problems associated with BLM authorized land use actions are identified.	1. Ensure hazardous material and potential hazardous material problems associated with BLM authorized land use actions are identified.
2. Reduce, mitigate or eliminate unlawful disposal of hazardous materials on BLM administered lands.	2. Increase law enforcement actions to reduce the amount of illegal disposal of hazardous wastes on public lands.	2. Increase law enforcement actions to reduce the amount of illegal disposal of hazardous wastes on public lands.
3. Implement the Management Action Plan in a timely and efficient manner.	3. Implement remediation/ removal actions for hazardous waste sites in a timely and efficient manner.	3. Implement remediation/ removal actions for existing and newly identified hazardous waste sites in a timely and efficient manner.
		4. Prohibit the following activities on public lands: New public waste disposal sites New or existing private waste disposal sites Storage or disposal of hazardous waste Dumping of fuel and other hazardous materials from airborne military aircraft above the ORA

OBJECTIVE	ALTERNATIVE A
AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) **ACEC 1:** Designate Areas of Critical Environmental Concern (ACECs) where relevance and importance criteria are met and apply special management to protect the values identified. **Rationale:** Section 202 (c)(3) of FLPMA mandates that priority be given to the designation and protection of areas of critical environmental concern. Further guidance and evaluation criteria are found at 43 CFR Part 1610.7-2. **Monitoring:** Develop monitoring plans specific to each designated ACEC to protect identified resource values.	1. Retain the following Areas of Critical Environmental Concern (ACECs) or Outstanding Natural Areas (ONAs): See Map ACEC-A. Guffey Butte/Black Butte Archaeological District ACEC (5,552 acres) (existing ACEC) Owyhee River Bighorn Sheep Habitat Area ACEC (136,840 acres) (existing ACEC) Boulder Creek Outstanding Natural Area (10,000 acres) (existing ONA) North Fork Juniper Woodland Outstanding Natural Area (4,204 acres) (existing ONA) 2. Manage designated ACECs and ONAs with the special management actions identified in Table ACEC-A.

ALTERNATIVE B

1. In coordination with federal agencies, and state and local government planning agencies, develop and implement an ACEC classification plan utilizing the NEPA, EIS process, to inventory, evaluate and classify ACECs in the Owyhee Resource Area, including within the Plan the following:

a) Describe the important historic, cultural or scenic value, the fish and wildlife resource, or other natural systems or processes in any proposed ACEC, and describe and document the damage which will occur to such value unless special management attention is given to the area, or describe and document the natural hazards of the area which will endanger life or safety unless special management attention is given.

b) Describe and document the special management attention which is necessary to protect the proposed area from damage to the statutory value, or to protect life and safety from natural hazards, and quantify the manner in which such special management attention is expected to provide the needed protection.

c) Review and evaluate existing ACECs in the Owyhee Resource Area, documenting a decision as to whether those areas qualify as ACECs in accordance with federal statutes, and if documentation shows that the areas do so

(contd)

ALTERNATIVE C

1. Designate the following as Areas of Critical Environmental Concern (ACECs): See Map ACEC-C.

Guffey Butte/Black Butte Archaeological District (5,552 acres)
Owyhee River Bighorn Sheep Habitat Area (148,390 acres)
Boulder Creek Outstanding Natural Area (4,557 acres)
Cinnabar Mountain Research Natural Area (277 acres)
Coal Mine Basin Research Natural Area (2,393 acres) (1,618 in Idaho, 775 in Oregon)
Hells Creek Research Natural Area (260 acres)
Jump Creek (612 acres)
Juniper Mountain (64,311 acres)
Lambert Table (18,002 acres)
McBride Creek Research Natural Area (200 acres)
North Fork Juniper Woodland Outstanding Natural Area (4,204 acres)
Pleasant Valley Table Research Natural Area (1,467 acres)
Rooster Comb Peak (8,178 acres)
Sinker Creek (2,125 acres)
Squaw Creek Research Natural Area (150 acres)
The Badlands Research Natural Area (1,059 acres)
The Tules Research Natural Area (113 acres)

2. Manage designated ACECs with the special management actions identified in Table ACEC-C.

ALTERNATIVE D

1. Designate the following as ACECs (See Map ACEC-D): See Map ACEC-D.

Guffey Butte/Black Butte Archaeological District (5,552 acres)
Owyhee River Bighorn Sheep Habitat Area (148,360 acres)
Boulder Creek Outstanding Natural Area (4,557 acres)
Cinnabar Mountain Research Natural Area (277 acres)
Coal Mine Basin Research Natural Area (2,393 acres) (1,618 in Idaho, 775 in Oregon)
Hells Creek Research Natural Area (260 acres)
Jump Creek (612 acres)
Juniper Creek Watershed (2,560 acres)
Juniper Mountain (83,431 acres)
Lambert Table (18,002 acres)
McBride Creek Research Natural Area (250 acres)
North Fork Juniper Woodland Outstanding Natural Area (9,322 acres)
Pleasant Valley Table Research Natural Area (1,467 acres)
Rooster Comb Peak (8,178 acres)
Sinker Creek (2,125 acres)
Squaw Creek Research Natural Area (150 acres)
The Badlands Research Natural Area (3,619 acres)
The Tules Research Natural Area (113 acres)
Upper Deep Creek (640 acres)

2. Manage designated ACECs with the special management actions identified in Table ACEC-D.

3. Complete exclosure fencing of ACECs within three years (Cinnabar Mountain, Hells Creek, Jump Creek, Mcbride Creek, Squaw Creek, and The Tules).

(contd)

OBJECTIVE	ALTERNATIVE A

ACEC 1 (contd)

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
qualify, define and implement the necessary special management attention, and document the NEPA process which was followed in establishing the ACEC. If the NEPA process was not followed, change the status of the ACEC from "existing" to "proposed" and follow the procedures set forth in subparagraphs 1a), 1b) hereinabove. If the determination is made that the existing ACEC no longer qualifies as an ACEC in accordance with federal statutes, then show the area as being returned to non-ACEC multiple use status. 2. Follow the policy and procedures set forth in the National Environmental Policy Act, including preparation of Area Specific EIS as to any proposed ACEC. 3. In coordination with federal agencies and state and local government planning agencies, annually review the relevance and importance criteria, the ACEC designation status, and recommended protection and special management attention for existing and proposed ACECs. See Map ACEC-B. 4. In developing and implementing the ACEC Management Plan, and in conducting the ongoing evaluation of existing and proposed ACECs, take the following actions: *(contd)*		4. Nominate Rooster Comb Peak and any other eligible sites/areas that qualify to the National Register of Historic Places and prepare Cultural Resource Management Plans for those sites/areas.

OBJECTIVE	ALTERNATIVE A
ACEC 1 (contd)	

ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
a) Use a systematic interdisciplinary approach in order to achieve integrated consideration of physical, biological, economic, and other scientific data. b) Use and observe the principles of multiple use and sustained yield set forth in federal statutory law. c) Consider present and potential uses of the land. d) Consider the relative scarcity of the values involved and the availability of alternative means and sites for realization of those values. e) Weigh long term benefits to the public against short term benefits of the existing or proposed action regarding ACEC status. 5. Annually evaluate the status of the ACECs, the impact on multiple use by continuing the ACEC designation, and the adverse impact of such designation on the multiple use concept mandated by the Federal Land & Policy Management Act. 6. No ACEC will be created, and no ACEC designation will be continued except in accord and compliance with statutory terms. No special ACEC management shall be initiated or continued except in accord and compliance with statutory terms.		

Chapter 3: Affected Environment

This chapter, Affected Environment, presents information on the resources and resource uses within the Owyhee Resource Area that would be impacted by one or more alternatives.

CLIMATE

Climate in the Owyhee Resource Area is primarily influenced by maritime air from the Pacific Ocean carried by prevailing westerly winds. Winter temperatures occasionally dip below 0 F° (-18 C°) and summer temperatures frequently rise above 100 F° (38 C°). See Table CLIM-1 for additional climate data. November, December, and January are typically the wettest months while July, August, and September are the driest. Annual precipitation is related to elevation and ranges from about 7 inches (180 mm) in the lower elevations to over 40 in (1,000 mm) at the higher elevations. See Figure CLIM-1. Climate graphs for a low (2,325 feet), medium (3,930 feet) and high elevation (6,160 feet) stations are shown in Figures CLIM-2, CLIM-3 and CLIM-4. Climate station locations are identified in Table CLIM-2. Floods can occur both from spring runoff and from intense summer thunderstorms. Thunderstorms are most prevalent along the Owyhee Front.

Existing data suggests no long-term trend in precipitation. Forty-four years of data from Swan Falls Power House indicates wide fluctuations but no definite long-term trend in annual rainfall. See Figure CLIM-5. The short-term trend has been below normal precipitation for 6 out of 7 years from 1987 through 1993 throughout the resource area.

GEOLOGY

The geology of the Owyhee Resource Area has been mapped by Ekren and others (1981). Other publications, Ekren and others (1982 and 1984) are the basis for much of the following stratigraphic description. The surface geology of the resource area is dominated by Cenozoic volcanic and sedimentary rocks.

The Owyhee Resource Area is entirely within the Columbia River Intermontane Physiographic Province and encompasses a portion of the western Snake River Plain and the Owyhee Uplands. The relatively flat-lying region between the Snake River and the Owyhee Mountains is part of the Snake River Plain, a fault-bounded structural basin partially filled with interbedded volcanic lavas and tuffs and lake sediments of late Tertiary to Quaternary age. The Owyhee Uplands, which form the southern border of the Snake River Plain and include the majority of the resource area, is an area of uplift and complex Tertiary volcanism dominated by the Owyhee Mountains on the north and the Owyhee Plateau to the south (Malde, 1991).

The western Snake River Plain is a northwest-trending, structural basin. It is bounded by high-angle normal faults and represents an intra-continental rift structure (Mabey, 1982). Rifting began in Miocene time and was accompanied by the eruption of widespread basalt flows, visible today only in scattered areas of the Owyhee Mountains and in deep exploration wells drilled in scattered portions of the western Snake River plain. During the remainder of Miocene and Pliocene periods, the subsiding basin was partially filled with thick deposits of lake sediments interbedded with intermittent lava flows and tuffs. At or near the end of the Pliocene period the depositional environment changed from primarily lake-deposited (lacustrine) sediments to stream-deposited (fluvial) sediments. This was caused by two factors: 1) the Snake River cutting a permanent outlet to the sea through Hell's Canyon to drain a large lake (sometimes referred to as Lake Idaho) formed when the river was dammed by volcanic eruptions and uplift, and 2) the climate gradually becoming cooler and drier. By Pleistocene time, sediments eroded from the still rising highlands of the Owyhee and Boise Mountain Ranges were being deposited in a mostly dry basin cut by the Snake River and periodically dammed by local flows of Snake River basalt. The majority of the sediments deposited from Pleistocene to Recent times consist of Terrace and stream sands and gravels with local lake deposits of clay and silt. Total thickness of the sedimentary and volcanic rocks deposited in the western Snake River Plain exceed 11,000 feet (Wheeler and Cook, 1954; Kimmel, 1982; Malde and Powers, 1962).

The Owyhee Uplands is a large volcanic field composed mostly of thick flows of welded ash-flow tuffs and lavas erupted onto late Cretaceous granites of the Idaho Batholith and scattered metamorphic rocks thought to be related to the metamorphic terranes exposed in northeastern Oregon and west-central Idaho. The northern part of the Owyhee Uplands includes the Owyhee Mountains, part of which is termed the Silver City Range, a highly mineralized area containing important deposits of precious metals (Sorenson, 1927; Ekron and others, 1982).

The Owyhee Mountains form the southwestern boundary of the Snake River Plain rift. The Owyhee Mountains are from 4,000 to 8,000 feet in elevation and are composed of a wide variety of volcanic rocks of Tertiary age, ranging from Eocene to Miocene in age. The oldest rocks exposed are pre-Cretaceous metasedimentary rocks ranging from schists to marble and represent the original basement rock in the area (Bennett and Gailbraith, 1975). These rocks are exposed at South Mountain and in the Flint Creek drainage where they occur as roof pendants and inclusions in the surrounding granitic rocks considered by Taubneck (1971) to be part of the Idaho Batholith of Cretaceous age. Batholith rocks are primarily granodiorite and quartz monzanite, but also include stocks of granite, quartz dorite and gabbro. The oldest Tertiary rocks in the resource area are basalts and andesite lavas of Oligocene age which locally reach thicknesses of 3,800 feet in the northern Silver City Range. Oligocene-age rocks were erupted onto an eroded granitic-metamorphic basement about 30 million years ago. Uplift began in Miocene time with a sequential series of volcanic eruptions ranging from basalt and quartz latite dated at 17 million years to massive flows and tuffs of rhyolite ranging from 16 to 13 million years old. Numerous rhyolitic dikes and plugs intrude older rocks in this sequence and are related to the precious metal mineralization of the northern Owyhee Mountains.

The Owyhee Plateau is a broad volcanic plain extending south from the Silver City Range into Nevada and westward into eastern Oregon. Elevation ranges from 4,000 to 6,000 feet, except where it is cut by deep river canyons. The geology of the Owyhee Plateau resembles a layer cake of thick rhyolitic lavas and ash-flow tuffs of Miocene age ranging from 13.8 to about 9.6 million years old. These massive sheets of rhyolite lava and welded-tuffs originate from two or more eruptive centers located at Juniper Mountain and what has been termed the Bruneau-Jarbidge eruptive center (Bonnichsen, 1982) east of the resource area. Each eruptive center is thought to contain numerous calderas similar to those found at Island Park and Yellowstone Park. The total volume of lavas and tuffs erupted from these two centers has been estimated to exceed 1,000 cubic miles of material. Total thickness of the rhyolite sheets on the Owyhee Plateau is unknown, but is probably in excess of several thousand feet.

Overlying the rhyolites is a relatively thin veneer of sediments and basalt flows erupted from numerous shield volcanoes throughout the area. These two rock types have been collectively named the Banbury basalt and are also of Miocene age, ranging from 10 to 8 million years in age. The youngest rocks on the Owyhee Plateau consist of wind-blown loess, minor terrace gravels, stream gravels and landslide deposits ranging from late Miocene to Recent in age (Malde and Powers, 1962).

AIR RESOURCES

There are two primary regulations developed by the Environmental Protection Agency (EPA) and the Idaho Department of Health and Welfare, Air Quality Bureau (IAQB) that govern air quality. The IAQB is responsible for enforcing the regulations and determining compliance with regard to all the applicable State and Federal regulations.

One set of regulations are the National Ambient Air Quality Standards (NAAQS). These standards limit the levels of air pollutants that are permissible in all air basins. These regulations govern six pollutants called criteria pollutants. Each criteria pollutant has a primary and secondary standard. The primary standard is set to safeguard the health of all people. The secondary standard is set to protect the health of people and to account for any unknown or unforeseen impact. The National Ambient Air Quality Standards are shown in Table AIRQ-1.

The other set of regulations are the Prevention of Significant Deterioration (PSD) regulations. Within this program, geographical areas in compliance with the ambient air quality standards (NAAQS) are designated as Class I, II, or III. Each type of area has PSD increments for particulate matter (TSP), sulfur dioxide (SO2) and nitrogen dioxide (NO2) under which air quality in the area cannot be impacted, even if the area is meeting the ambient air quality standards. Class I areas are Wilderness areas and National Parks. Class II areas are most other areas of the country. The Owyhee Resource Area is designated as a Class II area. The current Class II increments under the Prevention of Significant Deterioration regulations are shown in Table AIRQ-1.

Criteria to determine the significance of air quality impacts are based on the above referenced standards and regulations. Impacts would be significant if project emissions (1) increase ambient pollutant concentrations from below to above any NAAQS, (2) increase PSD increments above the standard for the designated class, or (3) impair visibility within Federally mandated Class I areas.

Air quality in a given location is described by the concentration of various pollutants in the atmosphere, expressed in units of parts per million (ppm) or micrograms per cubic meter (ug/m3). Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and meteorological conditions related to the prevailing climate. The significance of a pollutant concentration is determined by comparison with Federal and/or State air quality standards. These standards represent the maximum allowable concentrations of various pollutants necessary to protect public health and welfare with a reasonable margin of safety.

Limited data is available on the air quality of the RMP area due to the fact that no air quality stations are operating in this portion of Owyhee County. Some data gathered at a field study station near Silver City (1988 & 1989, CH2M Hill) indicate that levels for PM10 and TSP are well below the current Federal and State standards. Average particle concentrations measured were 28.4 ug/m3 for TSP and 20.1 ug/m3 for PM10. The PM10 concentration is well below the Federal and State 24-hour standard of 150 ug/m3 and indicates the area has low levels of TSP and PM10 (CH2M Hill, 1990). Other parameters, though not monitored, are believed to be below the Federal and State standards due to no available source of emissions.

Smoke management is necessary to minimize air quality and visibility impacts in smoke sensitive areas from prescribed burning. The use of prescribed fire as a basic management technique for maintaining and enhancing productivity of the public lands must be coordinated with proper management of the smoke generated. Prescribed burning will be planned and conducted in order to minimize the impact of smoke by combining favorable atmospheric transport and dispersion conditions with prescribed fire management techniques. These techniques may include (but not be limited to) the size of the burn, time of day, moisture content of the fuel and topography of the area.

Other sources affecting air quality are large scale mining and milling operations. In these instances operators are required to comply with regulations and standards, or if exceeded, apply for the proper permits with the appropriate permitting agency. The Bureau's role in these matters is non-regulatory.

Wind blown soil particles, due to lack of vegetative cover and disturbance of the soil surface, also affect air quality. The major causes of this condition are improper livestock management and OHMV activities.

Management actions to reduce potential air quality impacts include limiting prescribed burning in juniper/sagebrush/grassland areas to between 6,000 and 15,000 acres (or the equivalent of 40,000 to 120,000 tons of fuels) per year and limiting individual prescribed burns to between 3,000 and 5,000 acres (or the equivalent of 20,000 and 40,000 tons of fuel) with a 72 hour interval between burns. Smoke from prescribed burns is a complex mixture of carbon, tars, liquids and different gases. This open combustion source produces particulates of widely ranging size. By limiting the size (and corresponding tons of fuel) of the prescribed burns, attainment of Class II increments under the Prevention of Significant Deterioration Regulations and National Ambient Air Quality Standards, particularly for particulate matter, PM-10 particulates and carbon monoxide, will be maintained. Prescribed burns should be coordinated with other (State/Federal/private) air quality affecting actions to reduce cumulative impacts. An alternative to prescribed burns to manage juniper would exclude this source of air quality degradation.

Requiring and implementing Best Management Practices (BMPs) would limit unnecessary emissions from existing and new point and nonpoint sources. Proper management of soil and vegetative resources would reduce wind blown particulate matter.

SOIL RESOURCES

The soil resources in the resource area are extremely diverse. This diversity is a result of the variability in parent materials, slope, aspect, location on the landscape, elevation, climate, vegetation patterns, and age and time in place. The soils may be separated by using three main physiographic regions: the Snake River Sediments, the High Rhyolite and Basalt Plateaus, and the Owyhee (mountain) Uplands. See Map SOIL-1.

The Snake River Sediments have an aridic or aridic/xeric soil moisture regime and a mesic soil temperature regime. They are characteristically shallow to very deep and well drained. Textures are sandy or silty with high calcareous and/or saline conditions. Some of these soils have restrictive cemented layers in their profile (hardpans). These soils range in elevation from 2,260 feet to 3,400 feet. The erosion potential from wind and/or water (sheet, rill, and gully) is moderate to high.

The High Rhyolite and Basalt Plateaus have an aridic/xeric or xeric soil moisture regime and a mesic or frigid soil temperature regime. They are characteristically shallow to deep and well drained. Textures range from silt loams to clay loams with varying amounts of rock fragments both on the surface and in the profile. Many of these soils have well developed subsoils. Some of these soils have restrictive cemented layers in their profile (hardpans). These soils range in elevation from 3,400 feet to 5,800 feet. The erosion potential from water (sheet and rill) is low to high.

The Owyhee (mountain) Uplands have a xeric soil moisture regime and a frigid to cryic soil temperature regime. They are characteristically shallow to deep and well drained. Textures range from loams to clay loams with varying amounts of rock fragments both on the surface and in the profile. Many of these soils have thick dark surface horizons. These soils range in elevation from 5,600 feet to 8,400 feet. The erosion potential from water (sheet and rill) is low to high.

Soils information for the resource area was obtained from the Soil Conservation Service (SCS)/BLM soil survey (3rd order) of Owyhee County (awaiting publication). Additional soil information and detailed soil maps are on file at the Boise Field Office or can be obtained from the SCS.

Of the 1,313,975 public land acres within allotments in the resource area, 44% have been classified as having a high erosion hazard rating. See Table SOIL-1. These erosion ratings were based on the wind erodibility index, erosion susceptibility factor (K) and slope. Soils with a wind erodibility index of from 1 to 4 and soils with an erosion susceptibility factor (K) of greater than (>) .43 were classified with a high erosion hazard rating. Soils on slopes exceeding 30% were also classified with a high erosion hazard rating. See Appendix SOIL-1 for a summation of high erosion hazard ratings by allotment.

Based on field observations, most of the current specific erosion problems are on soils derived from sedimentary and/or granitic parent materials. Rill and gully erosion are low over most of the resource area except on the Snake River

Sediments (269,180 acres) and the granitic soils (86,410 acres). Many of these soils are on steep, poorly vegetated slopes.

The soils in the Snake River Sediments region and the lower reaches of the High Plateau region are associated with an early seral or disturbed vegetative condition. Native vegetation is being replaced by undesirable species (annual grasses and forbs) at a slow but steady pace. Areas that have a poor ecological vegetative condition have proven less effective in protecting the soil resource. As vegetative cover is depleted and the species composition is changed, the productivity of the soils is being reduced through erosion and lack of biological diversity (Blackburn et al., 1986). Continuation of this trend will lead to desertification in some areas. Both plant composition and density have an important effect on water infiltration rates. Plant density provides a protective vegetative and litter cover for the soil surface. This cover intercepts rain drops and dissipates impact velocity. Rain drop impact has a two-fold effect on soils. First, it causes particle detachment and displacement, and second, it causes compaction of the soil surface by sealing pores. Both actions affect infiltration and runoff. When infiltration rates are decreased, the result is an increase in runoff and subsequent soil loss (Meeuwig, 1970). Eventually this detached soil material enters streams, rivers and other bodies of water degrading these systems.

In addition to soil protecting vegetational degradation, the Snake River Sediments region and the lower reaches of the High Plateau region have experienced widespread destruction of soil stabilizing cryptogamic crusts and mosses. These organisms are particularly important in these low precipitation, sparsely vegetated areas because they shield the soil from rain drop impact, slow down surface runoff, prevent wind erosion, and build soil. Trampling by livestock is the major destructive force affecting these organisms.

Also affecting infiltration is the amount of compaction and the resulting increase in bulk density of the soil surface. Trampling by livestock, OHMV use, and road building are direct causes of compaction. Under moist soil conditions (spring and early summer), even light trampling can effectively compact the soils. This is especially critical on soils with heavy textured surface horizons. Soil compaction can also reduce vegetative vigor and productivity. Several studies (Rauzi and Hansen, 1966) on grazing intensity consider heavy trampling to be more harmful to soil than excessive grazing is to the plants.

The low elevation Owyhee foothills area (the entire area below 4,000 feet elevation draining to the Snake River) is in a state of desertification. Pedestalling of bunchgrasses is very evident. This indicates severe sheet erosion problems. Native cryptogamic crusts and mosses have been destroyed by livestock trampling.

Both large and small scale mineral activities contribute to the soil erosion process. Construction of access roads, exploratory drilling areas, and the mining process lead to soil loss and subsequent sediment delivery to streams.

Management practices which promote the establishment of good biologically diverse vegetation and streambank stability will help alleviate accelerated soil erosion and enhance soil productivity. These practices include 1) managing native perennial range to attain a late seral stage, 2) restricting livestock grazing on low precipitation, low production rangeland (Snake River Sediments and Owyhee foothills), 3) minimizing soil erosion caused by surface disturbing activities through proper timing with regard to soil moisture content and range readiness, 4) implementing and monitoring Best Management Practices (BMPs) on all actions that affect the soil resource in regard to the Non-point Source (NPS) pollution control program, 5) preventing or controlling surface disturbing activities on soils with a high or very high erosion hazard rating by restricting OHMV use, grazing use, road building, timber harvest, and limiting mechanical range treatments and prescribed fires, and 6) restricting livestock grazing in riparian areas that are displaying moderate to severe bank stabilization problems.

WATER RESOURCES

The Owyhee Resource Area is located in the Snake River hydrologic basin. Within this basin are some drainages which flow directly into the Snake River and others which flow into the

Owyhee River. Major drainages within the Owyhee River watershed include Jordan Creek, North and Middle Forks of the Owyhee River, Deep Creek, Main Fork of the Owyhee River, South Fork of the Owyhee River, and the Little Owyhee River. The resource area yields about 800,000 acre-feet of water per year. This water supports fish and wildlife, recreational opportunities, and agricultural uses.

The resource area is drained by about 46 perennial and major intermittent streams. See Table WATR-2 and Map RIPN-2. The length and location of permanently wetted sections of intermittent streams depends on snowpack volume and runoff timing. Water yield during high snowpack/precipitation years can be 20 times that for a low snowpack precipitation year. Runoff fluctuates by season and water year. Typical spring flows are often 30 times higher than summer, fall and winter flows.

The United States Geological Survey (USGS) maintains stream flow gages on the Owyhee River near Rome, Oregon, on the South Fork of the Owyhee River near Whiterock, Nevada, on Succor Creek and Jump Creek near Homedale, Idaho and on the Snake River just downstream of Swan Falls Dam near Murphy, Idaho. The USDA Agricultural Research Service monitors streamflow in the Reynolds Creek Watershed. Average annual discharge over the last 40 years for the Owyhee River at Rome, Oregon is about 721,000 acre feet. The shape of the hydrograph for most streams in the resource area is similar to that shown for the Owyhee River near Rome, Oregon. See Figures WATR-1 and WATR-2.

The primary water resource issues in the resource area are livestock grazing impacts to riparian areas, existing water quality conditions, redband trout (Oncorhynchus mykiss gibbsi) and recreational water quality (Finch, 1989 and BLM RMP scoping process). The pollutants of greatest concern are water temperature, fine sediment deposition, stream-riparian habitat alterations, and fecal coliform bacteria (Idaho Water Quality Bureau, 1991).

The BLM is currently in the process of filing water claims on public lands as part of the Snake River Basin Adjudication. The policy is to obtain water rights for livestock and wildlife for all water sources on public land. Prior to commencement of the Snake River Basin Adjudication on November 17, 1987 the Owyhee Resource Area had approximately 747 water rights with a total annual water yield of about 1,335 acre feet. See Table WATR-1. Approximately 438 reservoirs have been constructed in the resource area. Seasonal water storage is about 1,107 acre feet.

The primary causes of water quality degradation in area streams are thought to be intensive livestock grazing and historical mining practices. Beneficial uses are either not supported, partially supported, or supported but threatened on the majority of stream segments in the resource area. See Table WATR-2. The distinction among not supported, partially supported, or supported but threatened is due in large part to the number of samples taken. Stream segments for which a large number of samples were taken typically failed to meet water quality standards, whereas on segments where only a few samples were taken, the date and time the samples were taken greatly influenced the results. Monitored segments of 12 streams do not fully support designated beneficial uses. Monitored segments of 24 streams were found to partially support designated beneficial uses. Monitored segments of eight streams currently support one or more beneficial uses but these uses are threatened by current activities. Not all of the segments of these streams were monitored, but of those segments monitored none were found to fully support all designated beneficial uses. See Appendix WATR-1 for State of Idaho water quality standards and Appendix WATR-2 for water quality monitoring methods.

Primary pollutants related to livestock grazing are water temperature, fine sediment deposition, stream-riparian habitat alterations, and fecal coliform bacteria. The primary pollutants from historical mining operations are heavy metal concentrations and sediment. The majority of streams impacted by historical mining are located in the Silver City area.

The State of Idaho, in order to comply with provisions of the Clean Water Act and Environmental Protection Agency (EPA) regulations, must submit to EPA, a list of water quality-limited waterbodies (EPA, 1994). Water quality-limited waters are not expected to attain or maintain State water quality standards. Waters identified in this list are given a priority ranking to target those waters on which Total Maximum Daily Load (TMDL) criteria will be developed by the State (EPA 1991). BLM management actions affecting waters with TMDLs must conform to these pollution control requirements.

Information on aquatic macroinvertebrate populations is useful in evaluating relationships between riparian area condition and water quality. Invertebrate data is also useful for determining trends in riparian area condition and water quality which instantaneous samples might fail to detect. Invertebrate populations in the resource area show little impact from toxic pollutants, but the majority of streams lack healthy riparian shrub communities. These conditions are evident by the EPT index, EPT:chironomidae ratios, and HBI values which indicate that most streams have relatively low levels of toxic and organic pollution. Reduced densities of shredder type invertebrates indicate a lack of shrubs on many streams. Shredder type invertebrates feed on riparian shrub leaves that fall in the water. Filtering/collector type invertebrates are associated with organic enrichment which promotes filamentous algae and aquatic mosses which provide fine particulate organic matter (FPOM) and good attachment sites. A list of aquatic invertebrates found in the resource area is shown in Table WATR-3. A summary of aquatic invertebrate indices by stream and date is shown in Table WATR-4. Additional information and definitions of aquatic macroinvertebrate indices can be found in Appendix WATR-2. See also Appendix RIPN-1.

Fish communities are affected by high water temperatures and fine sediment deposition. Warmer water temperatures and increased fine sediment deposition causes a shift from redband trout dominated populations to dace, sucker, and shiner populations. A summary of fish communities is shown in Table WATR-5.

Limited information is available on ground water quantity and quality in the resource area. Main aquifers occur primarily in silicic volcanic rocks. Ground water recharge is mainly from precipitation. Generally ground water is at relatively great depths throughout the area but does come to the surface at many springs. Water yield data is available for 134 springs: 70% yield 2 GPM (gallons per minute) or less, 19% yield 2-3 GPM, and 11% yield more than 3 GPM. The average yield for these springs was 1.7 GPM.

A study conducted in the Bruneau-Grand View area (USGS, 1979) indicates that water quality is marginal for domestic, industrial and agricultural uses. The water contains moderate to high percentages of sodium and excessive amounts of fluoride. Mean fluoride content is 10.6 mg/l. High fluoride levels limit the desirability for domestic uses. High sodium levels present problems with agricultural irrigation uses on all but well drained soils.

Limited data does not indicate any long-term trend in water quantity in streams. The Owyhee River at Rome has exhibited wide fluctuations in flow over the last 41 years but not definite trends. See Figure WATR-1. The short-term trend has been below normal streamflow on the majority of streams throughout the resource area due to below normal precipitation for 6 out of 7 years from 1987 through 1993 throughout the resource area. A lack of measurable change in riparian area condition indicates that no trend exists in water quality condition.

The demand for high quality water will probably increase in the future. Present management of land use activities is not contributing to the maintenance of high quality water. The capabilities exist to improve watershed conditions and to provide for water resource protection. The primary obstacle to meeting water resource goals has been hot season grazing of riparian areas.

VEGETATION

The Owyhee Resource Area contains a wide range of elevations, rainfall, temperatures, and soil types. This results in a variety of vegetation communities. There are nine major vegetation community groups within the resource area. Each major vegetation group is based on differences in proportions and kinds of plant species that are potentially dominant on a specific site.

Table VEGE-1 lists the major vegetation community groups, acres, corresponding range sites, and common species found within climax communities. This vegetation information was compiled from data obtained from the current soil survey of Owyhee County (SCS, unpublished). With these surveys soil associations within each allotment were mapped and acreage for each range site was compiled. See Map VEGE-1 for a display of the vegetation communities in the Resource Area.

The most common vegetation community groups in the resource area are those containing big sagebrush. Plant communities dominated by Wyoming big sagebrush cover 29% of the resource area. These plant communities generally occur in the lower rainfall/lower elevation portions of the resource area and occur throughout the resource area. The common understory species will be Thurber needlegrass and, at slightly higher elevation, bluebunch wheatgrass. Mountain big sagebrush dominated plant communities occur on 12% of the resource area. These communities occur at higher elevations with greater precipitation or, at the lower elevations, they occur on north-facing slopes. The most common understory grass species is Idaho fescue. Bluebunch wheatgrass also occurs in the lower elevation sites. These communities are extensive throughout the Owyhee Mountains and the Owyhee Uplands.

The other major community group are those communities dominated by low sagebrush. Low sagebrush dominated communities occur under a wide variety of conditions. However, generally, they are characterized by sites with shallow rocky soils. Understory grass species include bluebunch wheatgrass at lower elevation, Idaho fescue at higher elevations or precipitation levels and Sandberg's bluegrass on the sites with the shallowest soils such as scablands or ridgetops. Low sagebrush communities occur throughout the resource area.

Within the Owyhee Uplands, many areas are dominated by western juniper but less than 8% of the resource area is considered to have western juniper as the potential natural community. The areas currently dominated by western juniper includes areas which are potentially mountain big sagebrush or low sagebrush vegetation sites. The central portion of the resource area is dominated by a combination of western juniper, mountain big sagebrush and low sagebrush major vegetation groups, and this complex of major vegetation communities is the most extensive in the resource area.

The salt-desert shrub vegetation communities dominate 7% of the resource area, entirely within the low elevation (below 3,500') in the Snake River GRA. These communities have as the dominant shrub species shadscale, budsage, fourwing saltbush or greasewood. They occur in area with very low precipitation (<10") and commonly have soils which are sandy or saline or other wise very droughty. The primary understory grass species are Indian ricegrass, Thurber needlegrass or basin wildrye.

Except for those allotments south of the Owyhee River (Garat (0584), Garat Individual (0524), Owyhee (Nevada) (0636), "45" (0629) and Tent Creek (0661)), the vegetation portion of the Owyhee Grazing EIS displayed current ecological condition for each allotment within the resource area. This condition information was compiled from data collected during the 1977-1979 field inventories. This inventory determined that within this portion of the resource area condition of the uplands was 57% poor, 35% fair, 5% good, <1% excellent and 3% treated. The vegetative portion of the Bruneau-Kuna Grazing EIS (which included information for the Garat, Garat Individual, Owyhee (Nevada), "45" and Tent Creek allotments) was based on data gathered from the 1979-1981 SVIM (Soil Vegetation Inventory Method) Inventory. That inventory indicated condition of the land within these allotments was 58% poor, 24% fair, 18% good, 0% excellent and <1% treated. Overall, these two surveys indicated that the condition of the lands within the Owyhee Resource Area was 58% poor, 32% fair, 8% good, <1% excellent, and 2% treated.

These inventories provided baseline information that has not been updated. Although updated ecological condition inventories are currently not available for the Owyhee Resource Area, all available information (i.e., 1977-1981 ecological site inventories, utilization studies, climatic data, actual use data, trend monitoring data, and resource specialists' professional judgement) was evaluated to determine an estimate for current ecological status. The current estimated ecological status of the uplands is 44% early seral, 43% mid seral, 11% late seral, <1% potential natural community (PNC) and 2% treated. This information has been carried forward to indicate which allotments have excess acreage (greater than 10%) in early seral status and insufficient acreage (less than 40%) in late seral status. See Table VEGE-2 for the current estimated ecological status on public lands by allotment.

The Snake River geographic reference area (GRA) was divided into those lands above and below 3,500 feet in elevation. This was done to aid in setting objectives and analyzing impact by alternative. The 3,500 foot elevation break was selected based on substantial differences in soils, climate, and the potential for improving ecological status between these two elevation areas. Because a majority of the range sites below 3,500 feet are currently in an early seral stage, the potential for improving ecological status in these areas is very low. This is due to the low precipitation in this area (7-10 inch annual rainfall), reduced soil productivity, the lack of available key species to act as seed sources, and competition from other species now established on these sites.

Poisonous plants and noxious weeds are present throughout the resource area. Noxious weeds which occur at locations within or close to the resource area are shown in Table VEGE-3. Noxious weeds are those which have been determined to have adverse effects on the environment and efforts for control or eradication have been undertaken.

RIPARIAN-WETLAND AREAS

Riparian habitat, as defined by BLM policy, is an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence (USDI-BLM, 1991). Wetlands, as defined by the U.S. Fish and Wildlife Service (Cowardin et al. 1979), are transitional lands located between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water and having one or more of the following attributes: (1) at least periodically, the land supports hydrophytes; (2) the substrate is predominantly undrained hydric soils; (3) the substrate is nonsoil and is saturated with water or covered by shallow water at sometime during the growing season each year.

Benefits of riparian vegetation are many. These areas act to reduce erosion, provide habitat for fish and wildlife, and improve water quality and quantity. Healthy riparian areas stabilize streambanks, control stream morphology and limit damage to streambanks from ice, high flows, and animal trampling. Plant roots hold soils and stabilize streambanks. Streams with streambanks devoid of vegetation have dramatically higher sediment levels than streams with vegetated streambanks (Schlosser and Karr, 1981). Vegetation also acts to reduce the velocity and, therefore, the erosive energy of overbank flows; thereby reducing erosion.

Riparian vegetation provides shade which lowers water temperatures, preventing lethal water quality conditions for fish. Lower water temperatures increase the stream's ability to hold dissolved oxygen. Riparian vegetation also produces up to 90% of the organic matter a stream needs to support aquatic communities (Campbell and Franklin, 1979, Cummins et al., 1989).

Riparian areas act to filter out nutrients and sediment from the surrounding watershed. Healthy areas act as sponges to soak up excess water, nutrients, and sediments during runoff events. Water is then released to the stream more gradually allowing additional streamflow to be extended into the dry seasons. Nutrients are stored and used by riparian vegetation.

Riparian ecosystems are the most productive type of wildlife habitat (Ames 1977). The influence of riparian ecosystems on wildlife is not limited only to those animal species restricted to riparian areas. Populations in upland habitats are influenced by these areas (Carothers 1977). When a riparian area is impacted, wildlife productivity in adjacent uplands is also depressed.

Riparian ecosystems in the resource area tend to have the following similarities: (1) they are well-defined areas in relation to the much drier surrounding uplands; (2) they make up a minor proportion of the overall land area; (3) they have higher productivity than the surrounding uplands;

(4) they support much higher densities and diversity of plants and animals than the surrounding uplands; (5) their condition is critical for maintaining fish habitat and water quality (see Kauffman and Krueger 1984 for a thorough review); and (6) livestock tend to congregate and utilize riparian areas to a greater extent than upland (Reid and Pickford, 1946; Ames, 1977; Severson and Boldt, 1978). Size and vegetation complexity of these areas vary greatly because of the many combinations that can be created between water sources and physical site characteristics. These characteristics include gradient, aspect, topography, soil type, water availability, and plant communities.

The impact of livestock on riparian zones can be considerable. For example, Marlow (1985) found approximately 80% of the forage used by livestock came from riparian areas even though they comprised less than 4% of the total acreage in a pasture. In Oregon, Roath and Krueger (1982) found the riparian zone (2% of the allotment) accounted for 81% of the total vegetation removed by cattle. Livestock impact riparian zones by affecting four general components: streamside vegetation, stream channel morphology, shape and quality of the water column, and the structure of the streambank (Kauffman and Krueger, 1984). Livestock overgrazing results in decreased riparian vegetation vigor and biomass, and alteration of species composition and diversity (Aces 1977; Bryant et al, 1972; Pond, 1961). Changes in riparian vegetation species to more xeric species or reductions in streamside vegetation affects streambank stability (Platts, 1979). Riparian plants have denser root structures and are thus better able to bind soil particles and resist erosion than upland plants. Loss of streambank stability leads to channel shape changes including downcutting and lowering of the riparian water table or widening of the stream channel leading to shallowing of the water column (Behnke and Raleigh, 1979; Elmore and Beschta, 1987). Accompanying changes in water quality include increased water temperatures, suspended sediment, and alterations in the timing and volume of water flow. Livestock congregating in riparian areas cause elevated nutrient and bacteria concentrations. High nutrient concentrations lead to increased growth of aquatic plants which can lower dissolved oxygen concentrations. All of these impacts result in decreased coldwater fish populations and community changes to warmwater species (Raleigh, 1984; Duff, 1979).

In southwestern Idaho, riparian conditions dictate water quality and fisheries habitat condition. A healthy, properly functioning stream channel and riparian area usually means good water quality and an abundance of healthy trout. Changes in the condition of the stream channel or the riparian area have a direct impact on the quality and quantity of fishery habitat. The primary water pollutants in the resource area are high water temperatures and fine sediment deposition. Both of these are directly related to riparian area condition. Water temperature is most sensitive to changes in air temperature and incoming solar radiation when streamflow is low, stream width to depth ratio is high, relative humidity is high, and wind speed is high. Incoming solar radiation is directly related to the amount of shade over the stream. Air temperature, relative humidity and wind speed within the stream corridor are related to riparian condition. Riparian areas with healthy shrub communities have lower air temperatures, humidities and wind speeds than the surrounding uplands. Stream width to depth ratio is controlled by streambank stability which is related to riparian condition. Well vegetated stable streambanks promote low stream width to depth ratios. Deep narrow streams are less susceptible to changes in weather conditions than wide shallow streams whose water temperatures have been shown to closely follow air temperatures (USGS, 1989). A major source of instream fine sediment deposition is from unvegetated eroding streambanks. See Appendix RIPN-1 for characteristics of riparian areas in unsatisfactory condition as compared to riparian areas in satisfactory condition in the resource area.

Riparian areas are found throughout the resource area in association with perennial and major intermittent streams as well as many reservoirs, springs and wet meadows. There are about 1,687 miles and 5,348 acres of riparian and potential riparian areas in the resource area based upon wetland types (Cowardin et al, 1979) according to USF&WS National Wetlands

Inventory Maps. About 652 miles and 3,179 acres of these meet the current BLM definition for riparian areas. See Map RIPN-1 for the distribution of wetlands in the resource area and Table RIPN-2 for a list of riparian areas by allotment.

Riverine riparian areas are typified by narrow bands of riparian vegetation from 10 to 100 feet in width. Riparian vegetation is typically composed of one or more of the following communities: a stream canopy cover consisting of a tree or shrub community, a secondary shrub community set back from the stream, and a herbaceous vegetation community. Stream canopy shrub communities are made up primarily of willow (Salix spp.), aspen (Populus tremuloides), black cottonwood (Populus trichocarpa), or alder (Alnus spp.). Red osier dogwood (Cornus stolonifera), chokecherry (Prunus virginiana), black hawthorn (Cratagus douglasis), or wood's rose (Rosa woodsii) are the dominant shrubs set back from the streams. Herbaceous communities are made up of rushes (Juncus spp.), spike rushes (Eleocharis spp.), sedges (Carex spp.), bluegrass (Poa spp.) and other grasses and forbs. Vegetation composition and density varies widely depending upon elevation, soils, water availability and ecological site condition. The highest quality riparian areas are dominated by obligate wetland vegetation (e.g., Carex nebraskensis or Carex rostrata) types whereas sites in lower ecological condition are dominated by facultative upland vegetation types (e.g., Poa). Sites in better ecological condition are typically found at higher elevations where precipitation and subsurface moisture is most dependable and in areas where livestock grazing has historically been restricted by steep terrain or other physical barriers. Map RIPN-1 shows wetland areas based on the National Wetland Inventory.

Numerous springs, seeps and upland wet meadows are scattered throughout the resource area, primarily at elevations above 4,000 feet. These areas are of critical importance for maintaining biodiversity. They are typically dominated by rushes, sedges, bluegrasses, mules-ear (Wyethia amplexicaulis), iris (Iris missouriensis) and other herbaceous species in deep soil meadow sites and by willows, aspen and other woody riparian species on shallower, rockier sites, typical of many springs and seeps.

There are numerous stock ponds and reservoirs which support riparian vegetation. These range in size from 0.1 to over 700 acres. Quantity and quality of riparian vegetation varies in response to water level fluctuations and livestock use. Most livestock reservoirs are less than one acre in size and have limited potential for enhancement of riparian values due to intense livestock grazing pressure. Some of the larger reservoirs with more dependable water could be enhanced by fencing to exclude livestock or piping water to a different location.

All riparian areas have extremely high wildlife and fisheries values. Wildlife use of riparian areas is often disproportionate to use of other habitat types. Many species are totally dependent on these areas for their survival. Examples of the latter include beaver, river otter, muskrat, water shrew, bald eagles, California quail, all waterfowl and shorebirds, dippers, belted Kingfishers and all frogs, toads, salamanders and fish. Riparian areas also provide fawning habitat as well as high quality forage, cover and water for mule deer; brood-rearing habitat for sage grouse; nesting habitat, escape cover and foraging habitat for many other game and nongame birds; foraging and roosting habitat for bats; and year-long habitat for a diversity of rodents and reptiles.

Riparian areas provide high quality recreational opportunities in the form of fishing, hunting, boating, hiking, wildlife viewing, sightseeing and camping. These uses are also disproportionate to recreational opportunities provided by other vegetation types. Archaeological and historical sites are also commonly found in close proximity to riparian areas.

Streams in the Snake River drainage area are of three distinct types; (1) unconfined streams with streambanks composed of highly erosive lakebed sediments,
(2) unconfined streams composed of unconsolidated gravel outwash and (3) confined streams located in tight canyons. Impacts to unconfined streams are caused by loss of riparian vegetation which leads to down-cutting and lowering of the water table in lakebed sediment areas and widening of the stream channel in the

unconsolidated gravel sections. Once degraded, both of these stream types are likely to flow intermittently. Examples of this condition include Rabbit Creek, Hardtrigger Creek, Squaw Creek, Browns Creek, and Pickett Creek. All of the unconfined stream segments are in unsatisfactory condition. Stream sections in lakebed sediments have a higher potential for improvement of both the riparian community and streamflows than those in unconsolidated outwash. Recovery, however, will require many years of proper management. Stream reaches in satisfactory condition in this area include short sections of Jump Creek and Reynolds Creek. These reaches are all in tight canyons with no direct impacts from livestock grazing, mining, or road construction.

Streams in the Jordan Creek/Boulder Creek drainage area are of three major types: (1) moderately stable, moderate gradient large boulder dominated streams (e.g. Upper Jordan Creek, South Boulder Creek); (2) unconfined, moderate gradient, coarse unconsolidated gravel streambeds within incised canyons (e.g. Jordan Creek Canyon, Boulder Creek); and (3) V-shaped drainages (e.g. South Mountain Creek). Large boulder streams have a low vulnerability, are relatively stable and are primarily affected in this area by mining impacts and loss of riparian vegetation needed to shade the stream. Unconfined streams suffer from high stream-width to depth ratios caused by annual loss of riparian vegetation. Confined streams in V-shaped canyons are impacted by loss of riparian vegetation which is needed to provide shade and help rebuild streambanks. Impacts to riparian habitat in this area include mining, livestock grazing, and, more recently, outdoor recreation.

Streams in the Owyhee River drainage area are of three major types: (1) streams running through steep V shaped canyons (Thomas Creek, Middle Fork Owhyee River, Squaw Creek); (2) deeply incised meandering streams (e.g., Owyhee River, Red Canyon Creek, North Fork Owhyee River); and (3) streams draining broad, bowl-shaped basins (e.g. Pete's Creek in Bull Basin). The sheer-walled canyon streams have low vulnerability to change because many of these streams have downcut to bedrock and the tight sheer-walled nature of the drainages limits widening of the channel. Present impacts to these canyon streams are caused by loss of vegetation which reduces stream shading and the inability of the stream to rebuild streambanks. Incised streams also have a relatively low vulnerability to future change because of their bedrock confinement. These streams are most impacted by the annual loss of riparian vegetation which limits the ability of the stream to rebuild streambanks. Broad valley streams are susceptible to further degradation because they are located in more erosive unconsolidated gravel sediments. Once degraded, these stream types are likely to flow intermittently. Livestock grazing has had the greatest impact on riparian vegetation communities in this area.

Inventories of riparian areas within the resource area conducted since 1976 show that about 87% of those inventoried are in unsatisfactory condition. About 42% of the riparian area miles in the resource area have been inventoried. Stream reaches with riparian condition classifications are listed in Table RIPN-1 and shown on Map RIPN-3.

Concerns include management of livestock grazing, mining, road construction, and very localized recreational activities which have all had an impact on riparian areas and water quality. The major concern, however, is management of livestock grazing. Streams and rivers throughout the resource area are contained in narrow, steep-sloped canyons where livestock congregate during the hot season for water and shade. This concentrated use results in a reduction in streamside vegetation and trampling of streambanks. Heavy streamside use leaves riparian soils vulnerable to high runoff events. Downcutting or lateral expansion of the stream channel results in a decline in water quality and in fisheries habitat.

Current livestock grazing practices allow for too much use during the hot season (July-September). The rate and direction of riparian condition change is dependent to a large degree on the amount of vegetative regrowth occurring after livestock are removed from a pasture and the amount of physical damage (e.g., bank trampling and shearing) which occurs (BLM 1989). Myers (1989) suggests that a minimum of 30-35 days between livestock removal and vegetation dormancy is required for adequate vegetative regrowth. Vegetative regrowth is needed to provide streambank stability and improve vegetation composition and structure. Clary and Webster (1989) recommend leaving a minimum 6 inch herbaceous riparian stubble height at the end of the growing season or grazing season, whichever is later, on streams providing sensitive species habitat. Myers (1989) also found a lack of riparian area improvement when cattle were allowed to graze more than a total of 28 days or 12 days during the hot season (July 1 - September 15) on streams similar to those found in the resource area. A Bureau technical reference (BLM, 1989) on riparian grazing management reports that use of willows during the summer months is destructive to willow growth and regeneration. Inventory data indicate that moderate to heavy use of willows by livestock begins to occur around mid-July. Myers found that cattle heavily use willows when use of herbaceous plants exceeds 60%. Platts found no impacts from livestock grazing when utilization is kept under 25%.

FORESTRY MANAGEMENT

Western juniper (Juniperus occidentalis) in the Owyhee Resource Area exists as a component of the Sagebrush Steppe Ecosystem (Bailey, R.G., Kuchler, A.W., 1966; Potential Natural Vegetation of the United States, USDI, Geological Survey). On the Owyhee Plateau, this ecosystem can be more accurately defined as a western juniper/ sagebrush-bunchgrass ecosystem. Juniper woodlands stretch from the northern front of the Owyhee Mountains south to the canyons of the Owyhee River. Scattered or thin stands of juniper appear within the sagebrush-bunchgrass communities at about 4,500 feet of elevation throughout this region. By 5,500 feet of elevation, some juniper lands have become dense enough to suppress or eliminate an understory of sagebrush and bunchgrasses. In the higher reaches of the Owyhee Mountain Range and on South Mountain, intermixed stands of Douglas-fir (Pseudotsuga menziesii) and subalpine fir (Abies lasiocarpa) occur.

Burkhardt and Tisdale (1969) separate western juniper stands into two general categories, climax and seral stands, using tree age as a basis for separation. Climax stands occupy rock outcrop and shallow, stony soil sites. Tree ages range from seedlings to well over 500 years, with most individuals trees falling into the 100 to 300-year old category. Seral juniper stands fully occupy or are encroaching into the moderate to deep soil sites found adjacent to climax sites. The seral sites are generally the swales and valley bottoms lying between ridgelines. Tree ages are widely variable, with the maximum age being around 100 years.

The aspect of these two communities differ primarily in the growth forms of younger and older trees. The most conspicuous trees on climax sites are over 150 years old. These trees are usually large, heavily limbed from near the base, and characterized by round-topped crowns lacking strong terminal leaders. Associated with these old-growth trees is the fruiticose lichen (Letharia vulpina). This lichen is noted for its bright yellow color. The lichen colonies become attached to the bare wood of dead or dying branches. No lichen colonies are found in the seral juniper stands. The seral stands are composed of younger trees with conical shaped crowns and prominent terminal leaders; the presence of dead or dying limbage is generally lacking.

Juniper canopy cover and density are variable on both climax and seral sites, but for different reasons. The number of trees on the seral sites largely depends on how far encroachment has progressed and the age of the stand. It is possible to find seral sites with only a few trees per acre and others with a closed juniper canopy. Seral stand densities on deep soil sites have been found with up to 840 adult trees per acre. No climax stands have been found approaching this tree density.

Western juniper woodlands currently occupy about 260,000 public land acres on woodland sites within the resource area. Climax stands exist on about 100,000 acres and seral stands of varying age classes occupy about 160,000 acres. An area is considered to be a woodland site if juniper provides at least 10% of the canopy (crown) cover. Map FORS-1 shows the extent of juniper woodlands on all lands in the Owyhee Resource Area. See Table VEGE-4 for juniper occurrence by allotment. Map FORS-1 and Table VEGE-4 are based on preliminary information. This information is being reviewed for accuracy and will be updated in the final EIS. Appendix LVST-1 identifies allotments where juniper is a management concern and accurately reflects areas where sufficient juniper exists to warrant management attention.

The understory vegetation differs markedly between the two juniper communities. Only two shrubs, mountain big sagebrush (Artemisia tridentata ssp. vaseyana) and antelope bitterbrush (Purshia tridentata), occur on climax sites and then usually with less than 1% crown cover. These two shrub species are much more important on the seral sites. Depending on the degree of juniper encroachment, these species plus lesser amounts of snowberry (Symphoricarpos spp.) and green rabbitbrush (Chrysothamnus viscidiflorus) provide up to 25% crown cover on the seral sites.

The principal herbaceous species in both communities are perennial bunchgrasses. Bluebunch wheatgrass (Agropyron spicatum), Idaho fescue (Festuca idahoensis) and Sandberg bluegrass (Poa secunda) occur with high constancy and frequency in both climax and seral juniper stands. Thurber needlegrass (Stipa thurberiana) is most characteristic of the climax sites. A group of 13 perennial forbs, notable because of their absence from climax western juniper sites, occur in seral stands with considerable constancy. These forbs are common associates of sagebrush-bunchgrass communities on the Owyhee Plateau.

According to Burkhardt and Tisdale (1969), "juniper invasion is wide spread throughout west-central Owyhee County and from the age class distribution it is apparent that this process began in the 1860's. The rate of invasion was slow until about 1900, then increased to a maximum between 1930 and 1940. Since 1940 invasion has slowed, but is still occurring. At present, juniper has more than doubled the area occupied in 1860." It appears that the deep, loamy sites are likely to be occupied in time by dense stands of juniper with virtual elimination of desirable understory vegetation. The acreage currently invaded could increase substantially if not treated. Juniper invasion is estimated to range between 172,000 and 328,000 acres on all lands within the resource area.

Watershed quality and forage for wildlife and livestock use would probably be reduced significantly over the next 20 to 30 years due to uncontrolled juniper encroachment. Controlling the existing rate of seral juniper expansion requires treatment of about 1,300 to 2,500 acres per year of predominately big and low sagebrush communities. Reducing the range of existing seral stands would require treatment of a greater number of acres.

Under the current management objectives for woodland resources most seral juniper sites are identified as lands available for restricted management of forest products such as fuelwood. No seral sites have been identified for the long-term intensive management of forest products. Once removed, it is the intent to keep future seral juniper encroachment in check through periodic prescribed fire. Some seral sites which lie within special designations, such as SRMAs, ACECs and WSAs, are to be managed for the enhancement of other uses: specifically recreation, scenic, wildlife and wilderness or wild river values. All climax juniper sites have been identified as being not available for forest products. See Appendix FORS-1 for woodland classification criteria.

There are currently six (6) identified woodcut areas in the Owyhee Resource Area which contain 11 cutting layouts. See Map FORS-2 for the woodcut areas. Five (5) of the layouts were active in 1991. The eleven layouts affect over 4,000 acres of deep soiled, seral juniper encroachment sites. No mature or climax juniper stands are involved. To date, about 1,000 acres have been 100% clearcut of juniper in accordance with prescribed cutting standards contained in the Owyhee Juniper Woodland Harvest Management Plan (1987). The cutting layouts characteristically include existing grassland swales located at the center of each layout. Map FORS-3 of the Boni Woodcut Layout along the Owyhee Uplands National Back Country Byway shows a typical cutting layout. Although cutting occurs in seral stands at about 10 cords per acre, associated open areas reduce cords per acre of clearcut to about 3.5 cords. The cordage per acre of clearcut should increase as cutting layouts reach into higher elevations. At the cutting rate exhibited in 1991, it is estimated that 300 to 600 acres per year will be clearcut over the next several years. Current gross income from juniper harvesting is estimated at $75,000 per year. Within several years, woodcutting operations could be generating about $150,000 in total gross income per year.

Douglas-fir (Pseudotsuga menziezii) communities are found in association with subalpine fir (Abies lasiocarpa), and are widely scattered across the north-central portion of the resource area above 6,000 feet in elevation. The communities exist as small, isolated stands on predominantly north and east-facing slopes where snowfields linger and which receive shading from the sun by topographical features. Some fir stands have taken hold under seral western juniper and quaking aspen (Populus tremuloides), gaining overstory control and causing their decline or elimination. About 35,000 to 40,000 acres of the Douglas-fir communities are found within the resource area.

Douglas-fir (Pseudotsuga meniziesii) forms a lower forest community, and may create a savanna either individually or as part of the mountain shrub or steppe vegetation. This species merges with the juniper communities at the lower elevation and the subalpine fir communities in the higher cool, moist areas.

The last major harvesting of the fir occurred during the settlement and mining of the Silver City and South Mountain areas in the latter half of the 19th century. Current harvesting of the Owyhee Mountains stands are from private and State lands. No Douglas-fir has been harvested from public lands in the Owyhee Resource Area for at least 20 years, except for occasional salvage removal of individual dead or downed trees. The Douglas-fir communities are mostly second-growth forests.

An inventory using the Timber Production Capability Classification (TPCC) was completed in 1980. The TPCC study showed that about 36,200 acres of commercial forest species, mostly Douglas-fir, with some subalpine fir, were found in the Owyhee Mountains. The total board foot (BF) of the Douglas-fir and subalpine fir, in the study, shows about 206,000,000 BF (206 MMBF), or about 5,700 BF per acre.

The percent of forests, or forestlands, within an inventoried land unit are:

Excellent stands - 81-100 : 25% of total TPCC Study
Good stands - 61-80% : 4%
Fair stands - 41-60% : 25%
Poor stands - 21-40% : 50%
Very poor stands - 0-20% : 11%

Good and excellent timber stands (29%), with about 10,000 acres, would be the main forest resource in the resource area, producing about 10,000 to 12,000 BF/acre, or about 132 MMBF (64%) of the TPCC study area.

The Douglas-fir series includes habitat types. Habitat types are a system of classification of overstory vs. understory vegetation on forestlands. The habitat types that are found in the Owyhee Mountains are Douglas-fir/elksedge (Psme/Cage), Douglas-fir/Oregon grape (Psme/Bere), Douglas-fir/snowberry (Psme/Syor), Douglas-fir/mountain sweet-root (Psme/Osch), and Douglas-fir/mountain mahogany (Psme/Cele). See Appendix FORS-2 for additional description.

Forest management areas include the following:

1. Lands available for intensive management of forest products.

No acres, or areas, are currently planned within the Owyhee Resource Area where forest management would be the primary use.

2. Lands available for restricted management of forest management.

Less than 10% of the 36,200 acres of commercial forest lands, or about 3,000 to 5,000 acres, are available for restricted management practices. Problems with the commercial acreage are that most stands have been cut in the past and current stocking levels are around 30%-50%; acreage for most stands is small (less than 30 acres); natural or artificial regeneration in most sites is difficult to be achieve because of brush competition and steep slopes (greater than 30% slopes); and small amounts of volume in BF.

3. Lands where forest management is for enhancement of other resources.

All Douglas-fir forests (approx. 36,200 acres) on public lands are currently being managed for the enhancement of other uses such as watershed, recreation, scenic and wildlife resources.

4. Forest lands not available for management of forest products.

About 36,200 acres of Douglas-fir forests have no forest management practices planned.

WILDLIFE HABITAT

The resource area contains 12 major plant communities and five other special habitats which support an estimated 159 resident and 183 migratory species of wildlife. Some of these communities, while occupying a relatively small area, support a disproportionately large number and diversity of wildlife. Within most plant communities are a variety of ecological sites with unique soils, vegetation and topographic features which combine to provide the ecological diversity necessary to support the large diversity of wildlife species found within the resource area. Table WDLF-1 lists major plant communities and special habitats, representative wildlife species and estimated total numbers of wildlife species determined by Maser, et al (1984) to be associated with most of these habitats in the Great Basin of southeastern Oregon. These plant community/habitat descriptions, with the exception of Douglas-fir and juniper, are the same as those listed by Maser, et al (1984). These descriptions were used so that the information presented in that publication on the relative importance of each community/habitat to wildlife could be incorporated into this plan. It is assumed that wildlife species/habitat associations within the resource area will be comparable to those found in southeastern Oregon. Plant communities and estimated acreages as presented in Table WDLF-1 and as analyzed in Chapter IV - Wildlife differ from those listed in Table VEGE-1 which are potential natural communities that would become established on major range sites if succession were allowed to run its course.

Wildlife can be separated into three broad categories including game, nongame and special status species. (Special status animal species are addressed in a separate section.) Traditionally, emphasis has been placed on habitat management for popular game species, some special status species and raptors and their prey species within the Snake River Birds of Prey National Conservation Area (SRBOPNCA). Other wildlife received very limited attention in terms of inventory, monitoring or management of populations or habitats. This situation has begun to change in recent years with the BLM's increasing emphasis on nonconsumptive wildlife values, protection and improvement of riparian/wetland habitat, biodiversity and ecosystem management.

Game species can be defined as those for which the Idaho Department of Fish and Game (IDF&G) or U.S. Fish and Wildlife Service (USF&WS) have set specific hunting seasons and bag limits. These can further be broken down into big game, upland game, furbearers, waterfowl and other migratory game species. Within the resource area there are five species of big game animals, nine species of upland game, seven species of furbearers, twelve waterfowl species and three other migratory game species. Table WDLF-2 lists the major game species, habitat acreage and key habitat associations.

The vast majority of wildlife species within the resource area are classified as nongame species. This includes a large diversity of mammals, birds, reptiles, amphibians and fish, some of which are classified as special status species. All migratory nongame birds are protected from harvest by the Migratory Bird Treaty Act and all resident nongame birds except for starlings, English sparrows and pigeons are fully protected by the State of Idaho. Raptors (birds of prey) are the most visible and closely monitored group of nongame animals and occur throughout the resource area in every habitat type. Eighteen species are known to nest within the resource area while another eight occur as winter residents, migrants or rare visitors. One of the world's largest known concentrations of nesting raptors occurs in the Snake River Birds of Prey National Conservation Area (SRBOPNCA) which encompasses 80 miles and 482,457 acres of the Snake River Canyon and adjacent public lands within the Owyhee and Bruneau Resource Areas. Fourteen raptor species are known to nest within the SRBOPNCA. Concentrations of cliff-nesting species also occur within the Owyhee River Canyonlands and most other canyon habitats.

Table WDLF-2 shows key habitat associations, habitat acreage and population trends for the major game species within the resource area. Most inventory, monitoring and management has traditionally been done for game species, although habitat condition and trend data for even these species is very limited and is based primarily upon extrapolations from vegetation inventories done from 1979 through 1981. These extrapolations were made using limited monitoring data and professional judgement. Most wildlife population and some habitat information was acquired from IDF&G Species Management Plans (1991-1995) and IDF&G, Region 3 biologists.

Until the winter of 1992/1993 mule deer numbers in the northern half of the resource area, primarily within Idaho Fish and Game Management Unit (GMU) 40, had been steadily increasing. Much of this increase was thought to be due to a series of mild winters resulting in high over-winter fawn survival. During this period, utilization of bitterbrush and other important browse species increased substantially on both winter and summer ranges and was nearing, and in some cases exceeding, recommended utilization levels. Both wildlife and livestock contributed to these increased use levels with much of it being attributable to the extended drought which reduced production and palatability of herbaceous forage resulting in greater dependence on bitterbrush and other browse. Drought and increased utilization levels reduced browse vigor which resulted in reduced leader growth, seed production and germination. As a result, many bitterbrush and other browse stands became quite decadent. Bitterbrush is the key deer browse species throughout the area. 1992 was an especially dry year which resulted in very poor forage production and intense competition for what forage was available. This resulted in deer entering the winter in poor condition which, combined with a return to near-normal snowfall, contributed to relatively high winter mortality.

Mule deer numbers in the southern half of the resource area within GMU 42 have declined sharply since the late 1960s and early 1970s and are still low. The exact causes of this decline have not been determined although the encroachment of seral juniper, especially on Juniper Mountain, is a likely contributing factor. See Map WDLF-1 for mule deer distribution.

Elk inhabit the resource area in small but increasing numbers. In 1992, elk hunting was permitted in the resource area and GMU 40 for the first time since 1972 with a total of five permits being issued. This was increased to eight permits in 1993. The highest quality elk habitat occurs on South Mountain and in the upper Reynolds Creek and Jordan Creek watersheds where Douglas-fir, aspen, mountain shrub and grassland vegetation types combine to provide suitable elk habitat. As with mule deer, mild winters during the drought years have probably contributed to increasing elk populations within the resource area. While contributing to increasing population levels, drought is also limiting production and vigor of forage plants and increasing competition with livestock and deer for food and cover. This is especially true in meadow and stream riparian habitats and other habitats in close proximity to water. The limited amount of high elevation summer habitat, decline of browse stands, competition with livestock for forage and space, disturbance and loss of habitat from mining and mineral exploration activity and increasing number of roads, disturbance and loss of habitat associated with logging on private and State lands are all suspected to be limiting factors for elk. See Map WDLF-2 for elk distribution.

Pronghorn antelope populations appear to be increasing throughout much of the resource area. This may also be due, in part, to several consecutive years of mild winter weather. Pronghorn antelope habitat, however, is generally in less-than-desirable condition throughout much of the area and could sustain larger numbers if conditions were improved. Localized overgrazing or incompatible livestock management, increasing OHMV activity, juniper encroachment and drought have all combined to create and sustain these conditions. A lack of dependable water, especially in lower elevation habitats, may also be limiting pronghorn antelope distribution and numbers, especially in drought years. Until recently, winter/spring pronghorn antelope habitat within a portion of the Snake River plains was showing noticeable improvement as a result of conversion from spring to winter livestock grazing. Unfortunately, the extended drought has slowed, and possibly even reversed, the trend over much of this area. Winter livestock use, while improving habitat conditions, may also have resulted in some increase in direct competition for forage and space during the winter months, especially during drought years. See Map WDLF-3 for pronghorn antelope distribution.

Sage grouse populations are low and probably declining based upon recent lek and brood counts. Populations in eastern Oregon were previously designated as a candidate species (C2) for possible listing as threatened or endangered under the Endangered Species Act. This indicates a need for close monitoring of populations and protection of key habitats in the ORA. Six years of drought are assumed to have had an adverse effect on these populations by drying up springs and wet meadows and limiting production and availability of forbs during the brood rearing period. Increased livestock use of wet meadows and springs during the drought have added to this problem. Concentrations of livestock and wildlife at these water sources leads to competition for water as well as succulent forbs which are a major component of the sage grouse's spring and summer diet. Maintaining adequate big sagebrush cover is also very important but has not been a problem in recent years due to the relatively low number of wildfires, prescribed burns or other treatments in sagebrush habitats within the resource area. OHMV activity has the potential of becoming a major disturbance factor especially within lower elevation sage grouse nesting habitat along the Owyhee Front. See Map WDLF-4 for sage grouse distribution.

Chukar habitat in the steep canyon slopes which support a mixture of shrubs and annual and perennial grasses is good throughout much of the area. However, riparian habitats which provide important brood rearing habitat and food and cover, especially during harsh winters and drought years, are generally in a degraded condition. A total of 11 guzzlers and numerous spring and stream riparian exclosures and riparian pastures have been developed to enhance habitat for chukar and other species using State HIP cost share funds in association with BLM range improvement program funds. See Map WDLF-5 for chukar distribution.

California quail are highly dependent upon farmland and lower elevation riparian habitat. As with chukar, concentrated livestock use of riparian habitats have likely had a negative impact on quail populations, especially during drought years. Riparian enhancement projects have improved some quail habitat but most is still in unacceptable condition.

Ring-necked pheasant nesting and foraging habitat occurs mostly on private agricultural lands, although shrub dominated upland and riparian habitats on public lands adjacent to farm fields provide important winter and escape cover for pheasant. Two cooperative farming agreements have been developed and implemented to improve habitat for pheasant and other species in coordination with the IDF&G and adjacent land owners. Other scattered tracts are being evaluated for their potential as cooperative agreement and development sites. While some upland and riparian shrub habitats are providing adequate cover, many are in unacceptable condition. Livestock grazing, OHMV activity and drought have had the greatest adverse impacts. See Map WDLF-5 for pheasant distribution.

Waterfowl nesting and brood rearing habitat has also been limited in recent years by drought conditions. The availability of many ponds and reservoirs has been severely limited, especially during fall migration. Heavy livestock grazing pressure has resulted in degraded habitat conditions along most of the resource area's perennial or major intermittent streams and at unfenced reservoirs and stock ponds. Only a handful are currently being managed to enhance habitat for waterfowl and other wildlife. Waterfowl habitat is generally in acceptable or improving condition only where livestock access is limited or excluded by terrain or exclosure fences.

Furbearer populations, although not closely monitored, appear to be relatively stable according to IDF&G. Habitat conditions for many species are in poor condition, however, and could probably support substantially higher populations. Beaver, muskrat, raccoon and mink are all dependent upon riparian habitats and require dependable yearlong water for survival. Drought and degraded riparian/aquatic habitats, common throughout the resource area, have a direct impact on these species in terms of limiting food, cover and water quality and quanity. The combination of heavy livestock grazing and beaver activity has lead to severe habitat degradation. The elimination of local beaver food supplies (i.e., willow and aspen) forces beaver to abandon dams which are subsequently washed out, often resulting in severe stream channel erosion. In the absence of heavy livestock grazing, beaver can normally maintain healthy riparian ecosystems and rapidly improve degraded riparian systems by building and maintaining dams that slow and spread stream flows, which allows sediment to drop out and rebuild eroded channels. They also improve or create habitat for other species associated with, or dependant upon, riparian/wetland habitat. Most other furbearers, while not strictly dependent upon riparian habitats, are often closely associated with these habitats as sources of food, cover, water and travel corridors. Other activities that have resulted in localized adverse impacts to riparian/wetland and upland furbearer habitat include mining and mineral exploration, road construction and maintenance and OHMV activity.

Raptor species, including golden eagles, prairie falcons, red tail hawks and ferruginous hawks, have been closely monitored for many years within the SRBOPNCA. Results have shown that all four species are maintaining relatively stable breeding populations within the SRBOPNCA. Nesting habitat for most cliff nesting raptors is relatively secure from most types of disturbance, and it is assumed that populations of these species are relatively stable in these habitats. Livestock grazing, OHMV activity, mining and other uses have likely impacted raptor populations where degraded habitat or disturbance has resulted in reduced prey base, loss of nesting habitat or nest abandonment. Wildfire has had a dramatic impact on raptor habitat within the Bruneau Resource Area portion and, to a much lesser degree, within the Owyhee Resource Area portion of the SRBOPNCA. Fire has converted thousands of acres of shrub dominated habitat to annual grassland which has reduced the diversity and density of nongame species and the raptor prey base within the SRBOPNCA.

Very little habitat, population inventory or monitoring information is available for other nongame species within the ORA. Most of the resource area is estimated to be in either an early or mid seral stage which would indicate that the number and diversity of nongame and other wildlife species are probably well below potential. Riparian/wetland habitats support the greatest density and diversity of nongame and other wildlife species (see Table WDLF-1) and these habitats are generally in the most degraded condition throughout the resource area. Livestock grazing is the most widespread cause of degraded upland and riparian habitat conditions although, OHMV activity, mining, vegetation treatments, drought, fire and subsequent invasion of exotic annual vegetation have also contributed.

FISHERY HABITAT

There are 15 fish species found in the resource area, excluding the Snake River. Twelve of these species are native and 3 species have been introduced. See Table FISH-1. The most abundant species are redband trout, speckled dace, bridgelip sucker, and redside shiner. There are 2 special status fish species; redband trout (Oncorhynchus mykiss gibbsi) and white sturgeon (Acipenser transmontanus). Redband trout are the most widespread game fish in the Owyhee Resource Area. Redband trout are a BLM sensitive species and a State listed species of special concern. The Idaho Fish and Game Department (IDF&G 1990) manages redband trout as a wild trout to preserve its genetic integrity and does not currently plant hatchery rainbow trout in waters containing redband trout. A list of previous fish plantings is shown in Table FISH-2. White sturgeon are found in the Snake River along the northern boundary of the resource area. It is a BLM sensitive species and a State listed species of special concern. White sturgeon is managed under "no harvest" regulations by IDF&G, however, sport fishing is allowed with a permit.

Fishery habitat in the resource area is composed of perennial and intermittent rivers and streams and reservoir habitats. There are no natural lakes capable of supporting a fishery in the resource area. There are about 500 miles of riverine habitat and a limited number of surface acres of reservoir habitat. Most of the habitat exists as perennial rivers and streams providing year round habitat. Intermittent streams are used as spawning habitat during the high water period and provide isolated pool habitat during the low water season. Intermittent streams are vital in maintaining aquatic biodiversity by providing habitat for nongame species. Reservoir habitats are primarily water storage facilities for the irrigation of private lands. These reservoirs provide habitat for fish only during surplus water years. When reservoir habitat is maintained for more than one year, large trout can be produced.

An inventory of fish habitat within the resource area was first conducted in 1976. Subsequently, some of these streams have been re-inventoried and some additional streams have been evaluated. In addition to these efforts, a fish habitat survey was conducted on Jordan Creek in 1988 in conjunction with the Stone Cabin Mine project. A list of fish densities by species is presented in Table WATR-5. Resource areawide, 91% of the stream miles inventoried were found to be in unsatisfactory condition. See Table RIPN-1 and Map FISH-1 for stream reaches with fish habitat condition classifications.

In the Snake River drainage, irrigation diversions, livestock grazing, road construction and mining have combined to reduce streamflows and alter stream channels and riparian communities on many streams in this area, resulting in impacts to fish habitat.

In the Jordan Creek/Boulder Creek drainage, primary land management impacts include mining, livestock grazing, and more recently, outdoor recreation. Reaches of Jordan Creek and its tributaries that have current or historical mining use produce runoff with an extremely low pH. This water can have a pH as low as pH 3.5 which is well out of the pH range of 6.5-9.0 that is needed for the survival of aquatic life. This situation becomes especially critical during low flow periods and can result in the loss of redband trout over large reaches of the middle section of Jordan Creek. Many tributaries that have spawning habitat are not utilized by redband trout because of their low pH.

The Boulder Creek drainage has short reaches of restricted canyons that are inaccessible to livestock and have satisfactory fish habitat. This situation also occurs in lower Combination Creek, and in short sections of Trout Creek, Rose Creek, Josephine Creek, Rock Creek, above Triangle Reservoir, and Louisa Creek just below Louisa Reservoir.

In the Owyhee River drainage, irrigation diversions and livestock grazing have had the greatest impact to stream channels, riparian vegetative communities and associated fish habitat. Irrigation diversions occur primarily on private land but impact aquatic life on downstream public lands especially during low flow periods. Livestock grazing problems generally occur when cattle have unrestricted access to streams.

Throughout the resource area, the primary management concern and the biggest impact to fish communities is the degradation of riparian habitat which leads to loss of pool and riffle habitat, loss of instream cover, elevated water temperatures, and fine sediment deposition. Livestock overgrazing is the primary cause of this degradation. Secondary causes of the loss of habitat are upstream water diversions, mining activities, and recreational use. Recreational impacts primarily occur in areas where other uses have previously degraded habitat. A shift to warm water tolerant species such as suckers, dace, and shiners and away from salmonid species like redband trout is projected to accelerate if degradation continues. The degradation of riparian and aquatic habitat has also had an adverse impact on the diversity and quantity of aquatic macroinvertebrates which constitute an important source of food for fish.

SPECIAL STATUS SPECIES

The Endangered Species Act of 1973 requires a) that all Federal departments and agencies utilize their authorities to conserve species, subspecies or populations of plants and animals officially listed by the Secretary of the Interior or Secretary of Commerce as Threatened or Endangered; b) Federal agencies to ensure that the continued existence of listed species is not jeopardized and that designated "Critical Habitat" of listed species is not destroyed or adversely modified; c) consultation with the U. S. Fish and Wildlife Service or National Marine Fisheries Service if it is determined that any BLM action may adversely affect a Threatened or Endangered species or its Critical Habitat; d) conference with USF&WS if it is determined that an action may affect a proposed, listed Threatened or listed Endangered species.

Special Status Plants

The Owyhee Resource Area currently contains 31 species or varieties of special status plants. All are included on the Idaho Native Plant Society (INPS) and BLM lists of sensitive plant species. Seven of these 31 species were listed as Federal Category 2 (C2) candidates for listing as Threatened or Endangered under the Endangered Species Act until publication of the Federal Register Notice of February 28, 1996. One other species was listed as a Federal Category 1 (C1) candidate prior to publication of this notice. There are currently no Proposed, listed Threatened or listed Endangered plants within the Owyhee Resource Area. All Federally listed Threatened and Endangered species are given full legal protection under the Endangered Species Act (ESA). For all other special status species, it is BLM policy to manage habitat to minimize the need for future listing as Threatened or Endangered. The INPS meets annually with botanists from the BLM, U.S. Forest Service, U.S. Fish and Wildlife Service, Natural Resource Conservation Service, Idaho Department of Lands, Idaho Conservation Data Center and others to review and recommend changes to Federal and INPS lists based on the latest available information. The results of these meetings are published biannually by the Idaho Department of Fish and Game Conservation Data Center (Conservation Data Center, 1994).

Table SPSS-1 provides a list of special status plant species known to occur within the resource area along with their current status and key soil and vegetation site characteristics. Limited inventory and monitoring data is available for many of these plant species and known distributions and population status are periodically updated as new information becomes available. See Map SPSS-1 for known distributions.

An additional 15 species not listed in Table SPSS-1 may also be found in the resource area. These plants have been recognized by the Idaho Native Plant Society as "Review" species, defined as "those taxa which may be of conservation concern, but for which we have insufficient data upon which to base a recommendation regarding their appropriate classification". These species are included in the booklet "Rare, threatened, and endangered plants and animals of Idaho" (Conservation Data Center, 1994).

Several of these special status plants occur only on soils derived from volcanic ash. The most serious threat to these ash-dwelling plants is mining. On these and other special status plant sites, OHMVs are becoming an increasing threat as this type of recreational activity becomes more popular, especially along the lower elevations of the Owyhee foothills where many of the plants occur. Other potential threats to special status plants include range project construction, livestock grazing and salt placement, agricultural trespass, land tenure adjustments, and plant collecting.

Special Status Animals

Special status animals include those listed by the USF&WS as Endangered, Threatened, proposed or candidates for listing as Threatened or Endangered; by IDF&G as endangered, threatened or species of special concern and; by BLM as sensitive. An Endangered species is defined as being in danger of extinction throughout all or a significant portion of its range. A Threatened species is defined as likely to be classified as Endangered within the foreseeable future throughout all or a significant portion of its range. Federal candidate species are those for which the USF&WS has of file sufficient information on biological vulnerability and threats to support proposals to list them as Endangered or Threatened species. State endangered and threatened species definitions are essentially the same as the Federal definitions but apply only to the species' Idaho range. Species of special concern are defined as native species which are either low in numbers, limited in distribution, or have suffered significant habitat losses. Sensitive species include 1) species under status review by USF&WS/NMFS, 2) species whose numbers are declining so rapidly that Federal listing may become necessary, 3) species with typically small and widely dispersed populations, and 4) those inhabiting ecological refugia or other specialized or unique habitats. All Federally listed Endangered and Treatened species are given full legal protection under the Endangered Species Act (ESA). For all other special status species, it is BLM policy to manage habitat to minimize the need for future listing as Treatened or Endangered under the ESA.

There are currently 34 special status animal species that are known or expected to occur within the Owyhee Resource Area. Table SPSS-2 provides a complete list of special status animals along with key habitat associations, status and occurrence. Map SPSS-2 displays known distributions of selected special status animal species. Map WDLF-2 displays California Bighorn Sheep habitat.

Inventory and monitoring for most special status animals and their habitats within the ORA has historically been hampered by limited funding and personnel. Consequently, for most of these species, very little is known about population/ habitat status and trend or the effects of various land use activities on populations or habitats. Information on occurrence and distribution has been acquired from various field guides, published and unpublished studies and surveys, IDF&G Conservation Data Center and incidental observations by BLM and other agency field personnel and the public.

WILD HORSE MANAGEMENT

The Wild Free-Roaming Horse and Burro Act (Public Law 92-195, passed in 1971) states "It is the policy of Congress that wild free-roaming horses and burros shall be protected from capture, branding, harassment, or death; and to accomplish this they are to be considered in the area where presently found, as an integral part of the natural system of the Public Lands." The Owyhee wild horse herd was inventoried in 1971 with their area of use collectively designated as the Owyhee Wild Horse Herd Area. See Map WHRS-1. The Owyhee wild horse herd has been managed in accordance with the 1978 Owyhee Resource Area Wild Horse Management Plan (WHMP) and the 1981 Management Framework Plan (MFP). These plans established a permanent forage allocation for the maximum number of wild horses allowed, designated minimum and maximum numbers of wild horses to be managed for by management area, and established the Sand Basin, Hardtrigger, and Black Mountain Wild Horse Herd Management Areas. See Table WHRS-1 and Map WHRS-1. The Alkali #6 and Whiskey Hill #5 pastures of the Reynolds Creek Allotment 0508 and Sage Hen Allotment 0660 are part of the Wild Horse Herd Areas but have not been managed for horses since the 1981 MFP.

Management levels and forage allocation shown in Table WHRS-1 can maintain a healthy and viable population of wild horses if they are allowed to roam freely and adequate forage remains after domestic livestock use. When wild horse numbers have been less than maximum, the available forage has been temporarily allocated to domestic livestock. There have been periods during high populations that the horses had difficulty maintaining good health and body weight particularly on winter ranges because of drought conditions and domestic livestock competition for forage. During these periods the horses are stressed, the movement of wild horses into areas outside of the Herd Management Areas increases, and reproduction is affected by fewer foals and/or increased foaling periods.

The Wild Horse Management Plan emphasis has been to gather and remove wild horses at a level and frequency to ensure protection of natural resources and to maintain a balance with other multiple uses (e.g. livestock grazing and wildlife habitat). When the wild horse population was in excess of optimum herd numbers of 178, gathering and removal for adoption was conducted to reduce the herd back to or near its minimum number. Past funding has restricted more frequent removal of wild horses with gatherings being initiated when the population was close to or in excess of 250 head. Since 1992 the wild horse management levels have been based on maintaining a thriving natural ecological balance among wild horses, wildlife, livestock and vegetation rather than the numbers identified in the Owyhee MFP or the Wild Horse Management Plan. Determination for removal of excess wild horses is now based on rangeland monitoring and analysis. See Table WHRS-2. During wild horse gatherings, the wild horses are usually herded into a trap with the aid of a helicopter, which has been the most cost-efficient and least stressful method.

Movement of wild horses away from traditional use areas and/or outside of the management areas has increased over time. The implementation of livestock grazing systems and the development of supporting rangeland improvements (i.e., fences, water developments, and seedings) has modified the wild horse distribution and free-roaming behavior patterns that existed in 1971. See Table WHRS-3 and Maps WHRS-2 and WHRS-3. The grazing system and scheduled closing of gates to control domestic livestock movement confines wild horses to particular allotment pastures over the course of the grazing season. The additional water development has expanded livestock grazing distribution into areas that were predominantly used by wild horses and wildlife. This expansion of domestic livestock has created competition for forage that did not previously exist. The movement of domestic livestock by permittees has, at times, resulted in unintentional disturbance of the wild horses. This along with gates being left open and poor fence maintenance have contributed to undesirable wild horse movement.

Herd Management Areas have received a considerable increase in public use (off-highway motorized vehicles, equestrian riders, hunters, etc.) since 1971 and general recreation use is projected to increase approximately 70% between 1995 and 2015. In the 1981 MFP, off-highway motorcycle and snow machine use was allowed on about 15,266 acres in wild horse ranges (the proposed Murphy ORV Park). In 1987, the Owyhee ORV Plan Amendment allowed OHMV use in a considerably larger area (about 86,953 acres) within wild horse ranges. The larger available use area combined with a greater number of users has resulted in increased public interaction with the wild horses. That increased interaction is causing direct harassment, indirect disturbances and stress on the wild horses. This interaction is projected to increase as recreation use increases.

Historically, year-long water for wild horses was not a problem. However, since implementation of grazing systems, development of rangeland improvements and increased public interaction with the wild horses, problems now exist. Pastures have been created where the only sources of water are water pipelines that are only on during the grazing period for domestic livestock. Other pastures have been created where the only dependable water is on State or private lands. Development of water sources on or near slopes or ridge tops that are preferred by wild horses have reduced the distance they have to travel for water. The wild horses may have had an adverse impact in riparian areas in the past which could continue in the future.

Habitat studies have been established and analyzed to evaluate the upland and riparian vegetative resources. Numerous study sites have been established in the HMAs located predominantly in areas preferred by domestic livestock and/or wild horses. This data collection determines the effect of wild horses on the rangeland and the effect other consumptive uses have on wild horses.

Winter ranges, which are crucial areas during a stressful period of the year, have been identified for each HMA. See Table WHRS-4 and Map WHRS-4. Winter snow typically forces the wild horses to lower or mid elevations between December 15 and March 1. Assuring adequate forage and water, and providing for uninterrupted distribution and movement is important for a healthy and viable herd of wild horses.

The Sands Basin, Hardtrigger and Black Mountain wild horse herd areas are all within areas identified as having moderate mineral potential. See Map LOCM-2. Development of locatable mineral resources has been low to-date in these areas and has had little impact on the wild horses.

Identifiable characteristics exist in the wild horse herds today that indicate quality wild horses were introduced which upgraded the herds prior to the passage of the Act. The quality characteristics (color, conformation, blood-lines etc.) have been preserved through managing the population. During past gatherings, some wild horses with desirable traits have been moved between HMAs to prevent inbreeding, and at the same time, maintain a proper sex ratio. For the period between 1978 and 1991, population dynamics have changed as illustrated in Table WHRS-5, which is a sampling of wild horses gathered. The aged wild horses (15+) are fewer now, which has reduced the natural mortality of that age class. Periodic removal of young studs and/or poor quality older mares has maintained quality in the herds. The present-day wild horses usually stand 13 to 16 hands high and weigh 750 to 1,200 pounds. The wild horses from these herds have been very adoptable. For example, all wild horses removed in 1991 were adopted at the Boise horse corrals in less than one week.

LIVESTOCK GRAZING MANAGEMENT

The stated purposes of the Taylor Grazing Act are "To stop injury to the public grazing lands by preventing overgrazing and soil deterioration; to provide for their orderly use, improvement, and development; to stabilize the livestock industry dependent upon the public range; and for other purposes."

The Federal Land Policy and Management Act of 1976 (FLMPA), directs the Secretary of the Interior to develop, maintain, and revise land use plans for public lands and to determine which lands remain available for domestic livestock grazing. It also requires that the public lands be managed in a manner that will provide forage for domestic animals. It provides for periodic inventory of public lands and requires the Secretary to prepare and maintain an inventory of public land resources and their values. This inventory is to be kept current to reflect changes in conditions. FLMPA also mandates multiple-use management on a sustained yield basis and directs the Secretary to consider present and potential uses of the public lands and the relative scarcity of the values involved and availability of alternative means and sites for realizing these values.

The Public Rangelands Improvement Act of 1978 (PRIA), provides policy and commitment to manage, maintain, and improve the condition of the public rangelands so that they become as productive as feasible for all rangeland values in accordance with management objectives. It directs the Secretary to develop and maintain an inventory of range condition and trend and to keep the inventory current. It provides for and requires an intensive public rangeland maintenance, management, and improvement program for multiple use values.

The Owyhee Resource Area administers livestock grazing within 165 allotments on a total of 1,628,138 acres. There are 1,617,582 acres (1,305,611 public land acres) within Idaho, 1,800 acres (all public land) in Nevada (one allotment), and 8,756 acres (6,564 public land acres) in Oregon (seven allotments). Licenses for grazing in these allotments are issued annually to 82 permittees. Livestock grazing on 4,320 acres (one allotment) in the southern part of the resource area is administered by Nevada and is not addressed (for livestock grazing purposes only) in this planning effort.

The 165 allotments are managed under three management categories: 89 allotments categorized as Improve Management (I), 32 allotments categorized as Maintain Management (M) and 44 allotments categorized as Custodial Management (C). See Map LVST-1 for grazing allotments and Map LVST-2 for management categories.

An Allotment Management Plan (AMP) is a document which prescribes the manner and extent to which livestock grazing is conducted and managed to meet multiple use, sustained yield, economic and other objectives. A grazing system is generally incorporated into the plan. There are currently AMPs for 17 allotments, 74 allotments have grazing systems with no AMP, 73 allotments are grazed year-long, and one allotment is not grazed. Table LVST-1 shows allotments with AMPs and grazing systems currently in place.

All I & M category allotments will be evaluated as monitoring data are collected. This method for evaluation is the allotment Analysis, Interpretation and Evaluation (AIE) process. The AIE process involves analysis and interpretation of the available data and evaluation to determine if current management activities are meeting or making significant progress toward meeting resource management objectives contained in land use plans or other documents. If progress toward meeting objectives is not adequate, recommendations for changing management, objectives, monitoring or other components are also developed. The evaluation and recommendations are utilized to develop or amend grazing systems and AMPs.

Current active preference for livestock is 136,285 animal unit months (AUMs). There are an additional 41,152 AUMs in suspended nonuse. Average licensed use for the years 1981 through 1986 was 115,144 AUMs. Table LVST-1 shows livestock forage allocations by allotment in the form of current active preference and average licensed use (1981-1986). Appendix LVST-1 shows current active preference, average use and suspended nonuse by allotment.

Rangeland improvements were developed to provide livestock forage, improve livestock distribution, and to provide for more intensive management of livestock through implementation of grazing systems. Range improvements identified in the Owyhee Grazing EIS and completed to date are shown in Table LVST-2.

Resource concerns have been identified for each allotment and management objectives developed during this RMP process have been applied to the specific concerns identified for each allotment. These concerns and objectives address State of Idaho water quality standards, riparian ecosystems, upland ecological condition, high erosion potential, juniper encroachment, noxious weeds, special status plant and animal species, wild horse management, crucial big game winter habitat and other wildlife considerations. Additional management considerations address congressional and administrative special designations, recreation use and mineral potential. See Appendix LVST-1 for resource concerns and management objectives by allotment.

FIRE MANAGEMENT

BLM policy requires that wildfires have appropriate suppression action taken. Appropriate actions are based upon analysis consistent with land management objectives. Fire suppression actions must be planned and executed to minimize suppression cost and resource losses and to be consistent with management objectives. No wildfire situation, with the possible exception of threat to human life, requires unnecessary exposure of firefighters and equipment to threatening situations. Whenever multiple fires occur priorities will be determined by the use of the Fire Management Activity Plan (FMAP) and by value-at-risk. The FMAP and the value-at-risk are both predetermined, and evaluate fires for resource damage, suppression cost, net resource value change and management objectives.

Structural firefighting is not the functional responsibility of the Bureau. Bureau assistance in suppression of structural fires may only be performed on an emergency basis to save lives or to keep the fire from spreading on to public lands. The Bureau cooperates with adjacent landowners to suppress wildfires threatening public resources where efforts are cost effective and the results will enhance BLM's fire management program. Only trained and qualified Bureau personnel are assigned to fire management duties.

Lower Snake River District policy is to suppress wildfires with the least amount of surface disturbance possible. Whenever burning conditions and terrain are such that direct attack is not feasible, the suppression strategy is to burn out from existing natural fire barriers, such as roads, and establish control points.

Surface disturbing equipment, such as bulldozers, are utilized in accordance with the Fire Management Activity Plan. First priority is clearing of existing roads and second priority is construction of new control lines. Surface disturbance will be limited to the absolute minimum in riparian areas. No mechanical surface disturbing equipment will be used on areas containing known or suspected cultural values, identified paleontologic sites or sensitive areas. In the Owyhee Resource Area, bulldozer use is authorized by the Area Manager.

Full suppression, modified suppression and prescribed fire will be conducted using the Fire Management Activity Plan (FMAP), Modified Suppression Plan, Prescribed Fire Management Plan and Wilderness Study Area Fire Management Plan. In the event of multiple fires within the resource area the suppression priority will be as follows: 1) Silver City area, 2) crucial wildlife habitat, and 3) riparian habitat areas.

Wildfires that occur in areas identified for prescribed fire may be allowed to burn if that area is scheduled for burning. The wildfire burning conditions must meet the prescribed fire plan conditions, including expected size, or the fire will be suppressed. Proposed prescribed fires may be modified, postponed or cancelled in areas where past prescribed fire projects and wildfires could cause significant cumulative impacts to wildlife or watershed conditions.

Wildfires will be evaluated for emergency fire rehabilitation and project plans will be submitted where feasible. Emergency fire rehabilitation plans will include appropriate seed mixtures to replace wildlife habitat that has burned. All grazing licenses issued that include areas recently burned and/or seeded will include a statement concerning the amount of rest needed in the burned area. Normally two years of rest from livestock grazing after a wildfire will be necessary to protect the area. The rested area may include remnant stands of desirable grass, forb or shrub species that survived the fire.

All fire activities in wilderness study areas (WSAs) will avoid unnecessary impairment of an area's suitability for designation as wilderness. Suppression actions within WSAs will be in accordance with Bureau and District guidelines for Wilderness Interim Management Policy.

The Fire Management Activity Plan (FMAP) developed at the district level is the basis for funding the fire management program. The FMAP addresses all aspects of the fire management program, incorporates an economic analysis, and is integrated with the Bureau planning process through the RMP.

The FMAP uses fire management zones to identify broad vegetation communities and objectives for each zone for managing fire suppression. Within the Owyhee Resource Area three fire management zones, with six subsections, are identified. See Map FIRE-1 for the location of each zone. Objectives for the three FMZ's are to: 1) suppress all wildfires on or threatening public lands in an attempt to meet allowable burn acreage identified in the FMAP, 2) take appropriate action on all wildfires according to conditions and in consideration of the least cost plus net resource value change, and 3) to manage for the most effective methods of suppression that are the least damaging to the resources and environments while requiring the least expenditure of public funds. Fire Management Zones are described in Appendix FIRE-5.

All the ecosystems, or vegetative communities, within the resource area have evolved and adapted to specific fire regimes. Active suppression and a lack of fine fuels have resulted in large areas with a greater proportion of vegetation in the older age classes, with less understory vegetation, which are more susceptible to insect and disease infestation. In the case of the western juniper, encroachment from climax juniper stands into the sagebrush communities is continuing. In the lower elevations, cheatgrass has invaded into the sparse, arid desert shrub communities. Wildfires in the cheatgrass areas occur more frequently burning the few native plant communities remaining with the cheatgrass areas.

Between 1980 and 1995, wildfires burned about 87,520 acres within the resource area. This was an average of 7.3 fires per year with an average size of 754 acres. About 1,137 acres, or 1% of the 87,520 acres burned, were re-burns. Re-burns are those areas that have burned more than once during the period. The average cost of fire suppression was $9 per acre. The average cost to suppress each fire was about $7,051. The cost figures are suppression costs only and do not reflect resource damage costs. See Table FIRE-1 for a summary of fire occurrence and costs.

Lightning fires account for about 49% of the fire occurrences within the resource area, burning over 73,710 acres (84% of the total 87,520 acres) since 1980. The cost of fire suppression for lightning-caused fires averaged $6 per acre. The average cost per fire was $7,814 due to the large acreage involved. See Table FIRE-2 for additional data.

Human-caused wildfires are the cause of about 51% of the fire occurrences with 13,809 acres burned (16% of the total 87,520 acres) for the 16-year period. The cost of fire suppression for human-caused fires averaged $27 per acre. The average cost per fire was $6,313 because of the smaller size. See Table FIRE-3 for additional data.

Below is a comparison of actual average fire size by fire management zone with the objectives identified in the FMAP. Fire data was from 1980-1995.

FMAP Objective	Acres	Actual Average Acres
FMZ 1.3:	500	223
FMZ 1.5:	50	351
FMZ 2.1:	2,000	7,373
FMZ 2.2:	500	127
FMZ 3.1:	1,000	595
FMZ 3.2:	500	187

The figures show that the actual average acres in FMZ 1.5 and FMZ 2.1 are high in relation to the objectives. Fires in FMZ 1.5 are mostly human-caused and fires in FMZ 2.1 are all lighting-caused. Fire size in the other four FMZs is consistent with the objectives.

A Modified Suppression Plan was established in 1980 for the resource area. This plan covers basically the juniper woodland areas from the Triangle-Jordan Valley road south to the Owyhee River. This area covers roughly FMAP FMZ 3.1 and most of FMZ 2.2. About 359,000 acres are included in this modified suppression plan. The objective of the Modified Suppression Plan is to limit fire sizes to 100 acres or less.

A comparison of the objectives for the Modified Suppression Plan with actual data indicates that the objectives are being met.

Objectives		Actual
Burning Index	>80	25 - 72
Acreage	<100	216

Wildfires within the Modified Suppression Plan area have burned about 9,512 acres of the 359,000 acres within the boundaries of the plan. Reported wildfires in this area totaled 30 fires: 14 human-caused and 16 lighting fires. With an average wildfire frequency of 1.9 fires per year, the acres burned per year averaged 317 acres over the 16 years. The fire suppression costs for these fires were $18 per acre. The high cost of fire suppression in the modified suppression area is due to the use of aircraft to locate these fires. The area has few roads and steep slopes with rough terrain which hampers fire suppression. Most fires were located in FMZ 3.1, with four fires in FMZ 2.2. See Table Fire-4, Modified Suppression Plan, for additional data.

The first prescribed fire projects in the resource area were the Juniper Mountain Trials undertaken by the University of Idaho in 1979. Between 1981 and 1995, 46 prescribed fire projects were planned, covering about 61,115 acres. Actual burning covered about 22,259 acres, or 36% of the planned acreage. The resource area staff planned 8 to 12 prescribed burn projects per year between 1981 and 1984. After 1984, this was reduced to one to two prescribed burns per year. See Table FIRE-5 for additional prescribed fire information.

Since 1984, prescribed fire costs have averaged $5 per acre in the resource area. Most burning has been in the seral juniper invasion stands within the Owyhee Plateau. See Appendices FIRE-1 and FIRE-2 and Table FIRE-5 for additional data.

Thirteen wilderness study areas, totaling over 294,000 acres, are within the resource area. General resource guidance including fire management for WSAs is provided in the BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review (IMP) H-8550-1, (1987). A wilderness fire management activity plan has been prepared to guide both natural and human-caused wildfires. See Appendices FIRE-3 and FIRE-4 for additional information.

Within the 13 WSAs in the resource area, 12 wildfires have occurred since 1980. These WSAs had 3 human-caused fires, burning about 313 acres, and 9 lightning-caused fires. One fire in 1985 burned about 24,000 acres of which about 50%, or about 12,000 acres, was within a WSA. The total acreage burned within all the WSAs was about 13,143 acres, with about 1,600 acres per fire for the 12 fires. Fire behavior is very predictable within the 13 WSAs where enough vegetation is found to carry a fire. A slow rate of spread, low to moderate intensity, and some spotting (in juniper areas) are characteristic of fires within these WSAs. See Table FIRE-6 for additional WSA fire data.

The objectives of the Emergency Fire Rehabilitation (EFR) program are to mitigate, in the most cost-effective and expeditious manner possible, the adverse effects of fire on the vegetation-soil complexes, the loss of water control and deterioration of water quality, and the detrimental alteration of crucial wildlife habitats. Areas that have been designated for limited or modified suppression are not eligible for EFR funding unless a site-specific justification is prepared and approved by the State Director.

Most of the resource area is located in the higher elevations (above 4,500 feet) where native vegetation will respond favorably to fires. Fire rehabilitation will continue at the same level as in the past. Equipment and workforce used in suppression may also be used for emergency restoration of damage (such as rehabilitating firelines or repairing burned fences) caused by suppression activities or the wildfire.

About 21,993 acres burned by wildfire in the resource area have been rehabilitated over the last 16 years, all in big sagebrush communities.

Fire rehabilitation projects:
Sinker Butte Fire; 9/18/81; 2,354 acres; T2S, R1W.
Horse Basin Fire; 8/7/84; 4,133 acres; T16S, R2W.
Garat Fires; 7/7-11/85; 5,085 acres; T15,16S, R2,3W.
Castle Creek Fire; 8/8/90; 10,000 acres; T7S, R1W.
Diamond Creek Fire; 9/11/94; 421 acres; T4S, R3W.

LANDS

Land ownership in the Owyhee Resource Area is depicted below and displayed on Map LAND-1. The data shows that about 75% of the resource area is under Federal ownership administered by the Bureau of Land Management.

Land Status for Owyhee RMP:

Land Ownership

1,319,651	Public Land (BLM administered)
137,706	State of Idaho Lands
322,048	Private Land
1,779,405	Owyhee Resource Area Total (Idaho Only)

In addition to lands located within the resource area in Idaho, the Owyhee Resource Area administers livestock grazing on additional lands located in both Oregon and Nevada. The lands on which the resource area administers livestock grazing are shown below.

Livestock Grazing Administration

Total		Public Land Only
1,617,582	Idaho	1,305,611
8,756	Oregon	6,564
1,800	Nevada	1,800
1,628,138	Total	1,313,975

Livestock grazing on 4,320 public land acres in the southern part of the resource area in Idaho is administered by Nevada. These 4,320 acres are not included in the numbers shown above for livestock grazing administration but are included in the numbers shown for land ownership.

Access

Access in the resource area is generally good. As the population increases, the demand for use of the public lands will also likely increase and the need for legal public and administrative access to some areas will also likely increase. See Map LAND-4 for identified access needs.

Rights-of-Way

Rights-of-way are primarily for distribution lines to individual buildings and facilities, residential and rural access roads, ditches, canals and reservoir sites. One aerial 500 Kv transmission line traverses the northern portion of the resource area in an east-west direction. A distance of one mile on either side of this powerline is identified as a preferred route for additional facilities in this area.

A buried natural gas pipeline traverses the southeast corner of the resource area in a north-south direction. A distance of one half mile on either side of this pipeline is identified as a preferred route for additional facilities in this area.

Communication Sites

There are five communication sites in the resource area. South Mountain is well developed with a BLM fire lookout and radio repeater. War Eagle Mountain is well developed and has five users in one building. Cinnabar Mountain has one block building shared by BLM and an amateur radio club. Wilson Peak and French John Hill are minimally developed with two users at each site. None of the sites have electrical power.

Withdrawals

There are currently 17 withdrawals covering 73,181 acres that have been withdrawn from one or more uses through various authorities. Because some of the withdrawals overlap, 68,528 acres are actually affected. Most of these withdrawals are administered by the Bureau of Reclamation and include lands adjacent to the Snake River. Withdrawals are identified for public water reserves, reclamation projects, Silver City, the Snake River Birds of Prey National Conservation Area, a power site classification and a power project. See Table LAND-2 for a list of existing withdrawals.

LOCATABLE MINERALS

The history of the extraction of locatable minerals in the resource area began with the discovery of gold in the Owyhee Mountains in 1862. Subsequent exploration and mining led to the establishment of seven mining districts within the resource area. These are the French, Carson, DeLamar, Flint, Castle Creek, Steele, and South Mountain Mining Districts. These mining districts are shown on Map LOCM-1.

As of May 27, 1995, there were 1465 active mining claims in the Owyhee Resource Area. While the majority of these mining claims are clustered in the historical mining districts, many claims have been located for mineral commodities that were either unknown or noncommercial in the 19th century.

One large precious metal mine is currently active in the Owyhee Resource Area. This is the DeLamar Mine operated by Kinross in the historical DeLamar Mining District. The mine began operations in 1976 and has been continually operating to the present. Kinross is the fourth owner and operator of the DeLamar Mine. On an average day, about 35,000 tons of rock are mined and 3,000 tons of ore are milled and vat-treated with cyanide solution for the extraction of gold and silver. The mine has a workforce of over 150 employees and is a major economic presence in the resource area. Kinross is also developing an open pit gold-silver mine on nearby Florida Mountain, where ore will be truck-hauled and processed at the DeLamar Mill. The company has other properties in the Delamar-Silver City area and is actively prospecting for additional reserves.

Dozens of small operations exist in the Silver City Range, mostly prospecting activities by individuals and small companies. Interest in looking for new reserves of gold and silver varies from year to year, depending on the price of precious metals.

UNIMIN is currently mining bentonite from a deposit of altered volcanic ash within the Chalk Hills Formation near Castle Creek in the northeastern part of the Resource Area. The clay is used in the paper processing industry. Reserves sufficient to last for at least ten years have been developed by the company.

Castle Creek Mines has opened a new industrial minerals mine about one mile north of UNIMIN's operation. Castle Creek is currently mining a high-grade deposit of oolitic limestone within the Chalk Hills Formation which is being used for everything from soil additives to adsorbents for industrial waste.

The market for this product has expanded to include the northwestern United States and western Canada. Sufficient reserves exist in the area to last for at least 20 years.

Large deposits of other industrial minerals exist in the resource area, associated with the sedimentary rocks of Poison Creek and Chalk Hills Formations. These include bentonite, oolitic limestone, diatomite,and zeolite. Reserves of some of these deposits are massive and will likely be developed as markets for these minerals continue to expand.

Areas of high mineral potential are shown on Map LOCM-2. Two areas surround the active DeLamar and Florida Mountain mining operations where gold and silver are being produced. The other area of high mineral potential lies along Castle Creek where sedimentary rocks containing large deposits of industrial minerals are presently being mined. Due to the lack of a mineral inventory, the rest the resource area is considered to be of moderate potential for precious metals (gold and silver) from the Owyhee Mountains south across the Owyhee Plateau to the Nevada border (Diggles et al, 1989). The area between the Owyhee Mountains and the Snake River is considered to be of moderate potential for industrial minerals (bentonite, zeolite and oolitic limestone).

FLUID MINERALS

Oil and Gas

In the Owyhee Resource Area, there is very little positive evidence to indicate the occurrence of petroleum. There are two major obstacles to assessing the oil and gas potential of the Resource Area: (1) pervasive cover of volcanic rocks; and (2) lack of the subsurface data. A surface mantle of volcanic rocks does not necessarily negate the possibility of oil and gas source rocks, reservoirs, and traps at depth. The nearest oil and gas production is in Pine Valley, Nevada, located 120 miles south of the Idaho State line. Regardless of the Nevada production, the lack of obvious source and reservoir rocks favorable for petroleum generation and accumulation does not paint an optimistic picture for the oil and gas potential of the Owyhee Resource Area.

Six exploratory wells have been drilled in the vicinity of the Owyhee Resource Area. No positive indications of oil and gas accumulations were encountered in these holes. The nearest direct indications of petroleum potential (gas and oil shows) were noted in two wells in northern Nevada, 30 miles southeast of the Owyhee Resource Area. Exxon's 1985 Four Mile Butte Federal No. 1 about 25 miles south of the Owyhee Resource Area penetrated a sequence composed almost entirely of rhyolitic tuffs to a total depth of 14,464 feet. A flurry of oil and gas leasing activity in northern Nevada and in the southern part of the resource area coincided with Exxon's former interest in this area.

Oil and gas potential can be qualitatively judged on the basis of the presence or absence of basic criteria that include: thickness, source rocks, reservoir rocks, traps, thermal maturation, direct indications of petroleum, and geologic history (see Appendix FLUM-1). Downwarping of the western Snake River Plain has provided a mechanism for the accumulation of significant thicknesses of Tertiary sedimentary rocks with some potential for petroleum. A substantial thickness of Tertiary sedimentary rocks are intercalated with volcanics in the resource area, particularly adjacent to the Snake River Plain.

No favorable Paleozoic or Mesozoic marine sedimentary rocks or Paleocene bitumen-rich lacustrine rocks, which could provide possible hydrocarbon source and reservoir rocks, are exposed in the resource area. The nearest exposures of Paleozoic sedimentary rocks are over 20 miles southeast of the resource area in northern Nevada. Organic-rich beds within Tertiary lacustrine units may offer some minor potential as petroleum-source rocks on the margin of the Snake River Plain or at depth beneath the volcanics.

The presence of source rocks and their level of thermal maturation, reservoir rocks, and traps cannot be confirmed beneath the volcanic mantle. The extent of volcanic activity is pervasive enough that it is possible that even if suitable source rocks exist beneath the volcanic cover, any hydrocarbons may have been driven off or be postmature for petroleum production. No direct indications of hydrocarbon presence, such as oil and gas seeps, petroleum shows or bitumen-bearing rocks, are known in the resource area.

Persistent and extensive volcanic activity dominated the resource area throughout the Cenozoic. The location of the Juniper Mountain volcanic center in the southern part of the resource area that erupted voluminous rhyolite could have easily driven off any accumulated hydrocarbons.

For planning purposes, the resource area has been classified for petroleum potential. See Map FLUM-1. The classification scheme followed is outlined in Appendix FLUM-2. The resource area is classified as follows:

Low potential/Certainty level B (L/B) - This area coincides with thick accumulations of Tertiary sedimentary rocks on the margin of the western Snake River Plain. Exposures of the Succor Creek Formation, which contain some potential source rocks, are also included in this category. Some small accumulations of gas could exist within the Tertiary sediments in these areas.

Low potential/Certainty level A (L/A) - This area coincides with the southern part of the resource area. Based on the dominance of the Juniper Mountain and Little Jack's volcanic centers, and the lack of any identifiable petroleum source rocks exposed within the resource area, petroleum occurrences in this area are considered to be unlikely. Since it is conceivable that the volcanic mantle conceals source and reservoir rocks, minimal potential cannot be ruled out.

Zero Potential/Certainty level D (Z/D) - This area coincides with the granitic core of the Owyhee Mountains and the area projected to have granitic basement to the south. The location of Anschutz Federal No. 1, that bottomed in granite is included in this area. Eocene to Cretaceous age granodiorite and quartz diorite and adjacent post-mature metasedimentary rocks near South Mountain are included in this area. All evidence points to a lack of source rocks, traps, and other essential characteristics necessary for the occurrence of oil and gas.

While there has been substantial past leasing activity in and adjacent to the resource area, particularly in the late 1970's to early 1980's, only minor exploratory drilling resulted. There are currently no authorized or pending oil and gas leases or applications in the resource area.

An important consideration for land-use planning is the availability of lands for leasing, exploration, and development. It is important to emphasize that while the low (or even zero) potential level indicates a probability of minimal exploratory activity, lands should not be restricted on this basis alone. The Supplementary Program Guidance states "lack of potential or lack of industry interest is not to be considered a basis for closing lands or imposing constraints on development". The possibility always exists that future geologic research and exploration may reveal new insights and lead petroleum exploration into areas of unconventional petroleum geology. In areas mantled by volcanic rocks, the possibility of the presence of underlying petroleum source and reservoir rocks cannot be ruled out with complete certainty without adequate drill data.

See Appendix FLUM-3 for a detailed geologic report on the oil and gas potential in the Owyhee Resource Area.

Reasonably Foreseeable Oil and Gas Activity

Based on the low potential for the occurrence of petroleum within the Owyhee Resource Area, reasonably foreseeable oil and gas activity in the area is not projected to be significant within the next 20 years. It is projected that oil and gas activity will consist of the issuance of some competitive and over the counter leases, a few geophysical surveys, and perhaps the drilling of one or two exploratory holes.

Because of the low potential for the occurrence of hydrocarbons, we do not project the discovery of a producible oil and gas field in the Owyhee Resource Area during the next 20 years; however, to comply with the Supplemental Program Guidance for Fluid Minerals (Manual Section 1624.2), the potential surface impacts associated with the discovery and development of a small oil field are outlined in the section titled "Oil and Gas Exploration and Development Scenario". See Appendix FLUM-4 for a description of typical oil and gas exploration and development activities.

Oil and Gas Exploration and Development Scenario

Exploration Scenario:

1. One to two exploration holes would be drilled during the next 20 years.
2. Exploratory drilling is most likely to be conducted within those parts of the resource area classified as "L/B". This is the highest level of potential for oil and gas in the Owyhee Resource Area.
3. The average area needed for each drill pad would be 2 acres. An additional 2 acres would be needed for support facilities.
4. The average length of road constructed for each drill hole would be 5 miles.
5. The roads would have a gravel surface with an average width of 20 feet. The total surface disturbance width would average 40 feet.
6. Each well would be drilled over a period of less than 12 months.

Surface Disturbance of Exploration:

1. The total area required for drill pads and support facilities would be 8 acres.
2. The total area required for roads would be 50 acres.
3. The total surface disturbance caused by exploratory drilling over the next 20 years would be 58 acres.

Field Development and Production Scenario:

1. Small deposits of oil or gas discovered in the Owyhee Resource Area would not be economical to develop. The minimum size that would be economical is a field containing reserves of 365,000 barrels of oil capable of producing an average of 100 barrels of oil per day over a productive lifespan of 10 years.

2. One field of the minimum size would be discovered within the Owyhee Resource Area during the next 20 years.

3. Total area of the field would be 200 acres and well spacing would be 40 acres. The field would require four development wells in addition to the discovery well. Each production well would create 2 acres of surface disturbance. This would include all production equipment for the well.

4. Each development well would require 0.25 miles of road. Development well access roads would be graveled and would have a surface width of 20 feet. The width of surface disturbance for roads would average 40 feet.

5. All production would be trucked to refineries located outside of Idaho.

6. All well service requirements would be provided by established service companies located outside of Idaho.

Surface Disturbance of Field Development and Production:

1. The total surface disturbance for well pads would be 8 acres.

2. The total surface disturbance for roads would be 5 acres.

3. The total surface disturbance caused by development of the field would be 13 acres.

4. The total surface disturbance caused by exploration and development over the next 20 years would be 71 acres.

Geothermal Potential

For assessment of geothermal potential, the Owyhee Resource Area is divided into two provinces: the western Snake River Plain and the Owyhee Uplands. The western Snake River Plain is a northwest trending, fault-bounded structural depression about 60 kilometers wide. The surface consists primarily of Tertiary and Quaternary lacustrine sediments and basalt flows. The land surface and the rocks generally dip toward the axis of the plain. The Owyhee Uplands borders the western Snake River Plain on the southwest and is formed by the Owyhee Mountains and the Owyhee Plateau. The Owyhee Mountains have a core of Cretaceous granitic rock overlain by Tertiary volcanic rocks. The Owyhee Plateau is underlain principally by Tertiary rhyolite, basalts, and interbedded sedimentary rocks.

Mitchell and others (1980) show 26 thermal water wells and one thermal spring located in the resource area, all within the western Snake River Plain province. The only thermal spring, Givens Hot Spring, has a surface temperature of 47°C and has been developed as a public bathing facility. This constitutes the only known beneficial use of geothermal energy in the resource area. The thermal wells are used primarily as a water supply for irrigation, stock watering and domestic purposes. Of the 26 thermal wells shown in the area, three have surface temperatures greater than 50°C with the highest temperature being 76°C.

These thermal features are probably a continuation of the Bruneau-Grand View geothermal system. In this system, wells that are as deep as 1100 m produce water at temperatures as high as 84.5°C from artesian aquifers in Cenozoic volcanic rocks. The assessment of the geothermal resources of the United States completed by the U. S. Geological Survey in 1978 (Muffler, 1979) indicates that, based on geothermometry, the Bruneau-Grand View geothermal system has a mean reservoir temperature of 107°C. Water at this temperature is valuable for direct use applications, but is not hot enough to be useful for the generation of electricity. Mabey (1983, p. 14) states that although additional deep drilling may discover hot zones in the system, there is no evidence in the existing data to indicate that large volumes of water much hotter that indicated by the geothermometers would be found associated with the Bruneau-Grand View system within 3 kilometers of the surface.

Based upon the preceding discussion, the geothermal potential of the western Snake River Plain province of the Owyhee Resource Area is determined to be high with a D level of certainty. As discussed above, the geothermal potential of this province is suitable for direct-use applications only. The reservoir temperatures are too low for the generation of electricity using current technology.

The Owyhee Highlands within the resource area contain no known geothermal systems. Available data indicate that the Owyhee Uplands province is in a region of abnormally high heat flow; however, no deep holes have been drilled in this area and the geothermal gradient at depth is not known. The principal rhyolitic rock units exposed in the Owyhee Highlands were erupted at irregular intervals, from about 16 million to about 10 million years ago (Ekren and others, 1984), too old to be a heat source for geothermal resources. The geothermal potential of the Owyhee Highlands province is determined to be low with a B level of certainty.

The easternmost part of the resource area was within the former Castle Creek Known Geothermal Resource Area (KGRA). The Castle Creek KGRA was declassified effective February 1, 1986. There are currently no authorized geothermal leases and no pending geothermal lease applications within the resource area.

The geothermal potential of the Owyhee Resource Area is shown on Map FLUM-2. The levels of potential and levels of certainty are from the geothermal potential classification scheme described in BLM Handbook Section H-1624-1, p. III-6 and BLM Manual Section 3031, Illustration 3. This classification scheme is summarized in Appendix FLUM-5.

Other Leasable Minerals

Since there is no known potential in the Owyhee Resource Area for coal or for non-energy leasable minerals, these two mineral resources are not addressed.

MINERAL MATERIALS

The Owyhee Resource Area contains enormous reserves of salable industrial minerals including sand, gravel, rock, clay and decorative building stone. These resources are referred to as mineral materials. The relatively low population base in Owyhee County has restricted large scale development to those that can either be used locally in highway construction or those that can be economically hauled for long distances. The growing population in the Treasure Valley to the north across the Snake River will eventually provide a substantial market for mineral materials mined in the Owyhee Resource Area.

Population growth in southwest Idaho is projected to increase. The demand for salable industrial minerals, particularly sand and gravel, clay and decorative rock is also projected to continue to grow at a rapid rate to keep pace with the ever-expanding population. Owyhee County is becoming a source area for certain types of mineral materials no longer available in quantity from rapidly growing urban areas to the north, particularly Canyon County. Lime, clay and decorative rock are already being mined in Owyhee County for use primarily in the Boise-Nampa-Caldwell area and this use is likely to increase in the foreseeable future as the population continues to grow. Sand and gravel resources, abundant in the resource area, could begin to help meet a regional demand within a few years as local sources to the north are exhausted or zoned out of development.

Current uses for sand and gravel in the resource area are for County road construction and maintenance and for use by the Idaho and Oregon highway departments. Commercial demand for these resources could eventually begin competing for good material sources in the resource area, expanding production and increasing the number of source sites.

There are ten community pits in the Owyhee Resource Area. Seven are for decorative building stone (Sec. 21, T. 2 S., R. 5 W.; Sec. 35, T, 1 S., R. 3 W.; Sec. 13, T. 1 N., R. 4 W.(two sites); Sec. 34, T. 2 S., R. 2 W.; Sec. 3, T. 1 N., R. 4 W.; Sec. 29, T. 5 S., R. 5 W. Two are for sand & gravel (Sec. 15 and 22, T. 2 N., R. 4 W.; Sec. 32, T. 4 S., R. 3 W. One site is for riprap Sec. 3, T. 4 S., R. 1 W.

There are about 45,000 acres in the resource area that have been identified as having high potential for mineral materials. See Map MMAT-1 for areas of mineral materials potential. Until a mineral inventory of the Owyhee Resource Area is completed, lands within the Resource Area not considered to have high potential are considered to have moderate potential for salable mineral resources.

There are currently 14 Free Use Permits in the Owyhee Resource Area. Most are issued to the Owyhee County Road Department for materials to be used in road construction, with the remainder to State Highway Departments and local irrigation districts.

RECREATION

Recreation Management Area Designations

Within the Owyhee Resource Area, ten Special Recreation Management Areas (SRMAs) have been identified and established through past planning efforts. The SRMAs total 312,801 acres. The remaining acreage, 1,020,580 acres, is contained in the Owyhee Extensive Recreation Management Area (ERMA). Table RECT-1 lists the existing SRMAs and the ERMA within the Owyhee Resource Area. The existing recreation management areas are shown on Map RECT-2A.

Special Recreation Management Areas (SRMAs)

Blackstock SRMA

The Blackstock SRMA (6,149 acres) consists of rolling plateau lands flanking the western slopes of the Owyhee Mountain Range adjacent to U.S. Highway 95 near the Oregon border. These lands have been used since 1977 as a competitive field dog area for three local dog clubs. The lands are recognized as among the best competitive trial areas in the Pacific Northwest because of their topographic layout and vegetation. The dog clubs wish to develop the area so it can be used for national trial events. The BLM, dog clubs and affected livestock permittees have entered into a cooperative agreement to define the boundaries of the field trial area and the extent of development and maintenance that will occur.

Jump Creek SRMA

The Jump Creek SRMA (8,667 acres) encompasses the desert plateau and canyonlands along the Owyhee Front country adjoining the Snake River plain near Homedale. Two streams, Jump Creek on the east and Poison Creek on the west, have cut deep, paralleling canyons northward through the plateau. Both streams flow intermittently in their upper reaches from spring snow melt or summer thunderstorms. The lower canyons are both fed by springs. Waterfalls exist in each of the lower canyons. The most well-known and frequented by recreationists is the 60-foot high Jump Creek Falls. The falls provide a physical barrier to many recreationists, as well as livestock, resulting in a riparian area recognized by the BLM and the Nature Conservancy as one of the best examples of pristine riparian habitat in southwest Idaho. The Nature Conservancy has recommended several miles of Jump Creek Canyon above the falls as a Research Natural Area (ACEC). The entire canyon, including 90 acres below the falls, has been identified as the Jump Creek Recreation Site (a total of 465 acres).

Below Jump Creek Falls, years of abusive recreation use has left the canyon marred by graffiti (spray paint) over many large boulders and rock monoliths, the trampling of the riparian area into a system of multiple trailings, the widespread littering of beverage containers, and extensive evidence of human defecation and urination. The mouth of the canyon has also been left marred by numerous fire rings, soils denuded from trampling and vehicle use of the parking area, widespread littering, and extensive soil damage and vegetation loss (rill and gully erosion) associated with off-highway motorized vehicle (OHMV) activity on hillsides. OHMV damage throughout the area is a growing concern. Site protection actions began in March, 1988. Site "hardening" is considered critical because of the estimated 7,800 visits to the site and adjoining lands each year for sightseeing, picnicking, camping, hiking, hunting, fishing, nature study and OHMV activities.

North Fork Owyhee Backcountry SRMA

The North Fork Owyhee Backcountry SRMA (56,602 acres) is located in the heart of the Owyhee Uplands in the center of the Owyhee Resource Area. The topography of the northern two-thirds of the SRMA is typified by major canyon systems with numerous tributary draws. The canyons are comprised of thousands of individual rhyolite rock spires or pinnacles intermixed with huge sheer-walled rock monoliths and steep talus slopes covered with juniper and grass-shrub communities. The tributary draws are formed by a preponderance of huge boulders and rock outcrops sprinkled with juniper. Included among the major canyons are that of the North Fork Owyhee River which flows west toward Oregon, and Current Creek Canyon, which drains to the south. In the southern portion of the SRMA, beginning at the southern rimrock of the North Fork Owyhee River Canyon, is an expansive tableland country comprised of shallow sagebrush-covered swales interlocked amongst crumbled rock outcrops dominated by juniper. The North Fork Owyhee Backcountry SRMA is used primarily for backpacking, horseback riding, camping, hunting, fishing, sightseeing and nature study. Visitation levels are currently low.

Owyhee Front SRMA

The Owyhee Front SRMA (180,940 acres) encompasses the plains and low foothills on the northern front of the Owyhee Mountain Range. The Owyhee Front is recognized as the number one area in southwest Idaho for quality off-highway motorized vehicle (OHMV) opportunities. The notoriety of the Owyhee Front is due generally to its cool spring/fall weather conditions and dry soil conditions coupled with a diversity of terrain features. The terrain includes hundreds of miles of dry sand washes and interconnecting primitive roads and trails traversing gentle to rugged hills and ridgelines. The area is used primarily for both casual and competitive motorcycle use year-round and for hunting in the fall. Sightseeing, horseback riding, mountain biking, rock hounding, wild horse viewing, and camping also occurs.

Conflicts have existed for years between springtime motorcycle use and livestock grazing. Wild horse and pronghorn antelope conflicts are also of growing concern. Much of the acreage used for the management of wild horses (Wild Horse Management Areas) is within the Owyhee Front SRMA. Since 1988, the BLM has been installing cattleguards throughout the area to reduce fence cutting and problems associated with open gates. Three OHV trailheads have been established to provide information to recreationists. The area has also been extensively signed as a "limited" use area where use of vehicles is restricted to existing roads, trails and sand washes. Funding for facilities has come almost entirely from the Idaho State Off-Road Motorized Vehicle (ORMV) Grant Funds Program. Maps of the road and trail system are to be disseminated at the trailhead recreation sites in the near future. The recreation site locations include the Hemingway Butte Trailhead, Rabbit Creek Trailhead and Fossil Creek Trailhead.

Owyhee Canyonlands SRMA

The Owyhee River flows westward across the southwest corner of Idaho, dissecting the Owyhee Uplands into a landscape of sheer-walled, meandering canyon systems framed by vast expanses of sagebrush-grassland plateau. The deep canyons of the East Fork and South Fork comprise the Owyhee River Canyonlands SRMA; 36,841 acres within the Owyhee Resource Area and 5,627 acres within the Bruneau Resource Area. The East Fork meanders west from the Duck Valley Indian Reservation for 57 miles before joining the South Fork. The South Fork Canyon begins in Nevada and cuts 22 miles northwest before entering Idaho. The South Fork journeys 28 miles through Idaho before joining the East Fork about nine miles from the Oregon border. Except for a few road access points, the area is very isolated.

The Owyhee Canyonlands of Idaho have a national reputation for providing exceptionally scenic springtime float boating opportunities in a highly primitive or pristine setting. Except for several very large rapids associated with rock falls, the character of the river is ideally suited for those seeking wilderness experiences in open canoes, as well as the more customary rafts or kayaks. The river canyons, plus several tributary canyons which merge with the East Fork, also provide outstanding backpacking opportunities during lower water periods. Hunting for mule deer, bighorn sheep, cougar and upland game birds occurs during the fall or winter months. The canyons are also used for rock hounding, sightseeing and vehicle camping.

The Owyhee River and East Fork Owyhee River were studied under the National Wild and Scenic Rivers Act. The 192 miles of river corridor, including 66 miles of the East Fork and mainstream Owyhee River in Idaho, were recommended suitable for designation in the 1979 National Park Service's Owyhee River Wild and

Scenic River Study Final Report. In 1984, Congress designated the Owyhee National Wild and River for the Oregon portion of the river. To date, no action has been taken on the Idaho portion. The South Fork, which was included in the Nationwide Rivers Inventory, is being evaluated for national river designation in the Owyhee RMP. The river corridor is currently managed under the Owyhee River Recreation Area Management Plan (1983).

Silver City SRMA

Nestled in the bottom of the upper Jordan Creek drainage in the heart of the Owyhee Mountain Range is the Silver City SRMA (2,174 acres). It extends from the historic mining town of Silver City downstream along Jordan Creek for a distance of about eight miles. The creek is flanked by the DeLamar, Tennessee, Florida, and War Eagle Mountains. Each year, thousands of visitors travel the road adjacent to Jordan Creek or over the top of New York Summit to visit Silver City's historic sites, camp, hike and fish along Jordan Creek, or to participate in motor vehicle activities (motorcycling or four-wheeling) and hunting on surrounding mountainous lands. Winter activities include snowmobiling and cross-country skiing. Recreation facilities in the area include a small campground and several toilet sites within the Silver City townsite, a toilet site at the major Jordan Creek Road junction known as Ruby Junction, and a number of small undeveloped campsites along the creek. Some of the historic ruins are owned by the BLM, but most properties existed as privately-owned buildings on public lands until 1990 when the building lots were sold to building owners. An Owyhee County zoning ordinance is in place to protect the historic character of the townsite since it is within the Silver City Historic District.

North Fork Canyon SRMA

Eight miles of the North Fork Owyhee River within Oregon were designated as a National Wild River in the Oregon Omnibus Wild and Scenic Rivers Act of 1988 (P.L. 100-557). The national designation extends from the North Fork's confluence with the Owyhee River at Three Forks, Oregon, eastward to the Idaho border. The Owyhee MFP identified the North Fork Canyon as an SRMA but no formal boundaries have been established. This planning effort recognizes the nationally significant recreation values of the North Fork Canyon in Idaho and considers designating four miles (475 acres) of the canyon from the Idaho border to the Deep Creek - Mud Flat Road Crossing (North Fork Crossing) as an SRMA and evaluates it for inclusion in the National Wild and Scenic Rivers System. The North Fork Canyon possesses exceptionally scenic natural features. The canyon is typified by spires of sculptured rhyolite and blocky basalt cliffs towering above a river channel lined with old-growth juniper and mounds of rock rubble. The river provides "world class" whitewater boating opportunities in the early spring and outstanding backpacking opportunities during the summer and fall. Sightseeing, camping, nature study, hunting and fishing opportunities are also present. A small (seven-unit), developed campground exists within the North Fork Canyon at the North Fork Crossing. An additional 209 acres upstream of the North Fork Crossing would also be designated as a SRMA if the upper North Fork Owyhee River is recommended suitable for national river designation. This is the only portion of the North Fork Canyon in Idaho not currently within an SRMA designation.

Deep Creek SRMA

Deep Creek flows due south from the Deep Creek - Mud Flat Road for 32 miles before its confluence with the East Fork Owyhee River. During its journey it carves a deep canyon through rhyolite and basalt rock. There are 5,882 acres of this SRMA within the Owyhee Resource Area and 5,918 acres within the Bruneau Resource Area. In its upper reaches, the creek cuts a relatively straight course through lands capped with tablelands of basalt. In the lower reaches, the stream has cut an extremely meandering course where vertical monolithic walls of sculptured rhyolite dominate the landscape. Within this majestic landscape can be found exceptional opportunities for backpacking, nature study, rock hounding, fishing, hunting, and whitewater boating. Some of these recreation opportunities are considered nationally significant. Deep Creek was identified in the Owyhee MFP as a SRMA but no boundaries have been established. The Owyhee RMP will determine whether SRMA boundaries are to be established as well as consider Deep Creek for inclusion in the National Wild and Scenic Rivers System. In addition to the acreage along Deep Creek, there are 567 acres along a tributary stream, Current Creek, which contribute to the recreational values of the upper Deep Creek area and are currently not within a SRMA. Should upper Current Creek, in the North Fork Owyhee Backcountry SRMA and the Deep Creek SRMA be designated a national river corridor, that stretch of Current Creek between the two SRMAs would also be a SRMA.

Oregon National Historic Trail SRMA

In 1978, Congress designated the Oregon National Historic Trail as part of the National Trail System to identify and protect the primary route and its historic remnants and sites for public use and enjoyment. The primary route includes the main routes followed between 1841 and 1848. Nationwide, only about 15% of the 2,170 miles of the primary route are still intact. Seven segments of the primary route are designated as components of the Oregon National Historic Trail. Two segments are in southwest Idaho: the North Trail and the Sinker Creek Segments. The Sinker Creek Segment is in the northern portion (7,305 acres) of the Owyhee Resource Area near the Snake River. The BLM has marked the Oregon Trail and associated historic route remnants on State and Federal lands with posts placed at 1/4 mile intervals to guide those who hike or drive the trail.

Snake River Birds of Prey SRMA

Located along the Snake River, at the northern periphery of the Owyhee Resource Area, the 26,714-acre Snake River Birds of Prey Natural Area contains 33 miles of river canyon and high desert plateau. The area lies within the 482,457-acre Snake River Birds of Prey National Conservation Area established to protect raptors and their habitat. Here, the soils, vegetation, geology and climate have evolved to create a unique natural system that supports the highest known concentration of nesting raptors in North America and, perhaps, the world. Exceptional opportunities abound for recreationists to view birds of prey in their natural environment. Of the 26,714-acre area, 7,766 acres are within the Owyhee Resource Area. Recreation management activities are concentrated on the north side of the river within the Bruneau Resource Area. From the northern access road, the 3/8-mile Dedication Point Interpretive Trail leads visitors to a signed interpretive site overlooking the Snake River Canyon. Wees Bar Petroglyph Field in the Owyhee Resource Area, a riverside boulder field containing hundreds of prehistoric rock art carvings, is a popular destination for hikers and boaters, as are the stone ruins of the old mining settlement of Halverson Bar in the Bruneau Resource Area. The SRMA supports a variety of other popular recreation activities including good fishing for bass, catfish and catch and release sturgeon; on-road motorcycle riding and mountain biking; hiking; horseback riding; and boating.

Extensive Recreation Management Area (ERMA)

Owyhee ERMA

The Owyhee ERMA includes 1,020,580 acres extending from the Snake River south along the Oregon border to Nevada. Elevations range from 2,500 feet along the Snake River to over 8,000 feet in the Owyhee Mountain Range. These mountains extend east-west across the northern portion of the resource area. South of the Owyhee Mountain Range the topography is comprised of a highly convoluted plateau known as the Owyhee Uplands. These uplands are typified by numerous steep-walled canyons framed by a mixture of isolated tablelands and long rocky ridgelines. At the southern reaches of the area, the Owyhee Uplands become an open, expansive flat to gently rolling plateau deeply dissected by the deep river canyons contained in the Owyhee River Canyonlands SRMA. The extreme diversity of landforms and vegetation in the ERMA creates a wide range of natural settings in which to enjoy recreation opportunities. Recreation use is widely dispersed and consists mostly of hunting, fishing, horseback riding, rock hounding, nature study, camping, sightseeing, hiking, and off-highway motorized vehicle use. Mountain biking opportunities are present but little use as yet occurs.

Within the Owyhee ERMA there are five areas, in addition to the existing ten SRMA areas, which the BLM believes have exceptional recreational values or recreation use conflicts with other resource values which warrant consideration as SRMAs. See Table RECT-2. The three larger areas, Fossil Creek, Squaw Creek and Guffey Butte, are discussed below. The two smaller areas, North Fork (Owyhee River) and Current Creek, are minor adjustments relating to national wild and scenic river considerations. The Owyhee Uplands National Back Country Byway is predominantly in the ERMA.

Fossil Creek Off-Highway Vehicle Management Area

The Fossil Creek OHV Management Area adjoins the Owyhee Front SRMA in the vicinity of the lower Fossil Creek drainage where soft sedimentary rock strata have eroded into a convoluted "badlands" topography. The Fossil Creek Area was identified as a "limited" use area during the preparation of the 1987 Owyhee ORV Management Plan. Off-highway motorized vehicle (OHMV) use can occur on existing roads, trails and sand washes. The limitation was needed primarily to protect fragile soil/ vegetation conditions and ground nesting raptors. Paleontological resources are also now known to exist in the area in large quantities. The area is extensively used by motorcycles and all-terrain vehicles (ATVs) in the spring and fall months. Four-wheel drive truck use also occurs. Special management attention is needed on 19,470 acres of the area to protect natural resources from OHMV activities. The Fossil Creek Area should be managed in conjunction with the Owyhee Front SRMA. Portions of the Oregon National Historic Trail SRMA should be associated with the proposed Fossil Creek SRMA.

Squaw Creek Portion of the Hardtrigger Wild Horse Herd Area

The Hardtrigger Wild Horse Herd Area overlaps the Owyhee Front SRMA designation in the Wilson Creek - Squaw Creek region of the Owyhee Mountain Range. There are 24,560 acres of the Herd Area which occupy the higher elevation, mountainous terrain to the south of the Owyhee Front SRMA in the Squaw Creek region. It has been proposed to expand the Owyhee Front SRMA to include all of the Hardtrigger Wild Horse Herd Area. Deteriorating habitat conditions caused, in part, by off-highway motorized vehicle (OHMV) use, and animal stress brought about by increasing interaction with recreation users, necessitates an increase in recreation management presence. Recreation management objectives need to emphasize interpretative and regulatory signing, an increased law enforcement presence, and the imposition of more restrictive OHMV designations. Facilities which could encourage recreational use should not be constructed.

Celebration Park Proposal (Guffey Butte)

In 1990, Canyon County entered into a cooperative effort with the BLM to develop a park along the Snake River. The park proposal would incorporate the portion of the existing Snake River Birds of Prey SRMA, 2,635 acres of additional lands around Guffey Butte, and portions of the Oregon Trail SRMA. The purpose of the park is to provide for enhanced recreational opportunities for both day-use and overnight activities and to provide increased visitor supervision in both motorized and nonmotorized settings. Visitor facilities such as a boat ramp, toilets, interpretive centers and RV campgrounds are being placed on the Bruneau Resource Area (north) side of the Snake River on county lands adjacent to the Snake River. Nonmotorized trail development is being considered for the Owyhee Resource Area. The Snake River Birds of Prey SRMA's boundaries should be expanded to include the public lands in the Guffey Butte area.

Owyhee Uplands National Back Country Byway

The 103-mile long Deep Creek - Mud Flat Road traversing the Owyhee Uplands from Jordan Valley, Oregon, to Grand View, Idaho, has been dedicated as a National Back Country Byway. The intent of the Byway is to provide for sightseeing and interpretive opportunities along this major gravel roadway. Entrance stations at each end of the Byway plus a myriad of kiosks (roofed sign structures) and other signs have been proposed to provide information. There are 45 miles of the Byway within the Owyhee Resource Area. The Byway management corridor is one mile in width (1/2 on mile each side of the road) and closely corresponds to the "roaded natural" classification boundaries identified in the ROS inventory. The corridor totals 15,705 acres within the resource area; 2,225 acres of which are within SRMA designations.

Recreation Opportunity Spectrum

All lands within the Owyhee Resource Area have been inventoried to determine their Resource Opportunity Spectrum (ROS) classification. Lands were classified as either primitive, semi-primitive (nonmotorized and motorized), roaded natural, rural or urban. See Map RECT-1. Classifications were derived from a consideration of five criteria: remoteness, size, evidence of human use, social setting, and managerial setting. See Table RECT-3 for additional classification and criteria information. The total acreage in the Owyhee Resource Area for each ROS classification is shown below. The acreage figures include public, State and private lands.

Recreation Opportunity Settings

ROS Class	Acres Inventoried	% of Resource Area
Primitive	234,940	13%
Semi-Primitive Nonmotorized	386,150	22%
Semi-Primitive Motorized	794,010	45%
Roaded Natural	177,080	10%
Rural/Urban	187,225	10%
Total	1,779,405	100%

Off-highway Motorized Vehicle Designations

In 1987, the Owyhee Off-Road Vehicle Management Plan was completed in accordance with Executive Orders 11644 and 11989. This Plan designated all public lands within the Owyhee Resource Area as "open" or "limited" to off-highway motorized vehicle (OHMV) use. No "closed" areas were identified in the Plan, but conditions under which closures could occur were specified. The definitions and current acreage for open, limited, and closed areas are presented below. The acreages for each designation are for Federal lands administered by the BLM. The current OHMV designations are shown on Map RECT-1A.

Open: 420,493 acres: Off-highway motorized vehicle use is allowed on all public lands without special restrictions, except as otherwise posted.

Limited: 899,158 acres (total): Off-highway motorized vehicle use is limited to existing or designated vehicle routes in accordance with seven (7) possible levels of posted restrictions.

Existing Routes

Limited - Level 1 (L1): 233,649 acres: Off-highway motorized vehicle use is limited to existing roads and to existing jeep, ATV and motorcycle trails year-round, except as otherwise posted. (A planning document would specify notable exceptions, such as recognizing sand washes as part of a trail system.)

Limited - Level 2 (L2): No acreage currently designated. Off-highway motorized vehicle use is limited to existing roads and to jeep, motorcycle and ATV trails year-round, except as otherwise posted; with management retaining the option to close lands to OHMV use from (month-day) to (month-day), except for designated routes. (Dates can vary among administrative units.)

Limited - Level 3 (L3): No acreage currently designated: Off-highway motorized vehicle use is limited to existing roads and jeep trails, and to designated motorcycle and ATV trails year-round, except as otherwise posted.

Limited - Level 4 (L4): 541,074 acres: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round.

Level 4-IMP (O): 109,140 acres: These areas are designated as L4-IMP only because of the BLM Wilderness IMP. If released from the IMP by Congress, these lands will be managed as "open".

Limited - Level 5 (L5): No acreage currently designated: Off-highway motorized vehicle use is limited to existing roads and jeep trails year-round, except as otherwise posted; with management retaining the option to close lands to OHMV use from (month-day) to (month-day), except for designated routes. (Dates can vary among administrative units.)

Designated Routes

Limited - Level 6 (L6): 15,295 acres: Off-highway motorized vehicle use is limited to designated roads and trails (jeep, ATV and/or motorcycle) year-round, except as otherwise posted.

Limited - Level 7 (L7): No acreage currently designated: Off-highway motorized vehicle use is limited to designated roads and trails (jeep, ATV and/or motorcycle) year-round, except as otherwise posted; with management retaining the option to close lands to OHMV use from (month-day) to (month-day), except for designated routes. (Dates can vary among administrative units).

Closed: No acreage currently designated: All lands are closed to off-highway motorized vehicle use year-round.

Notes:

Off-highway motorized vehicles (OHMVs) are defined as all motorized vehicles which are capable of being operated off of improved and regularly maintained roads having hardened or gravel surfaces.

A jeep trail is defined as a two-wheel track. Motorcycle and ATV trails are narrower, single-track vehicle routes.

Posted exceptions can include authorizations for winter snowmobile or snow cat use; the posting of sand washes as part of a trail system; area-wide closures of a specific type of trail; closures of specific routes to all vehicles or to specific types of vehicles; closures of specific areas for "emergency" purposes; or prohibitions against random hill climbing activities; etc.

Wild, Scenic and Recreational River Eligibility and Classification

Within the Owyhee Resource Area, there are 55 river segments (or groupings of segments) totalling 1,221.5 miles which were inventoried to determine if they met the definition of a free-flowing river under Section 15 of the Wild and Scenic Rivers Act (P.L. 90-542). Each of the 55 "river" segments and related adjacent lands were evaluated to determine if they are eligible for national designation under one of three classifications as defined under Section 2(b) of the Wild and Scenic Rivers Act. See Appendix RECT-2. For any river segment to be eligible for potential suitability as a designated national wild, scenic or recreational river, it must not only meet one of the three classifications, but the river corridor must also possess one or more "outstandingly remarkable" values as defined by Section 1(b) of the Wild and Scenic Rivers Act, including scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar value (such as watershed). The judgment as to whether resource values are outstandingly remarkable can be made from a regional, State or national context.

A summary of the rivers in the Owyhee Resource Area that were inventoried for eligibility is presented in Table RECT-4. Of the inventoried river segments, 223 miles were found to be eligible for designation as either wild, scenic or recreational rivers. Narratives for eligible and non-eligible river segments can be found in Appendices RECT-3 and RECT-4 respectively. The river segments found eligible in the inventory are shown on Map WSR-1.

Visitor Use

Total annual recreation visitor use in the Owyhee Resource Area for 1995 is estimated at 164,682 visits. These visits account for 1,766,076 visitor hours. See Table RECT-5 and RECT-6. Driving for pleasure, off-highway vehicle use, hunting, vehicle camping, picnicking, day-hiking and rock hounding were the predominant land-based activities. Fishing and whitewater boating were the water-based activities for the spring and summer; with snowmobiling and cross-country skiing occurring in the winter months. Recreation visitor use by recreation management area is shown in Table RECT-5. Visitor use estimates are based in part on information supplied in the 1988 and 1990 Idaho State Comprehensive Outdoor Recreation Plans (SCORP). See Tables RECT-7 and RECT-8 for additional recreation use data.

Recreational use of the various recreation opportunity settings available on public lands in the resource area centers around 11 principal activities: hunting, fishing, whitewater boating, off-highway motorized vehicle use, backpacking (hiking), camping (tent and recreational vehicle), horseback riding, rock hounding, picnicking, pleasure driving (sightseeing), and snow activities (cross-country skiing and snowmobiling). The estimated amount of recreational use (Idaho residents) occurring for southwest Idaho (Region III) and the State as a whole for the 11 activities in 1980, as well as what is projected for the year 2000, is shown in Table RECT-8. The figures project an increase in overall recreational use in southwest Idaho of 72% between the years 1980 and 2000. Most activities would increase by 74%, whereas several recreational activities dependent almost entirely on public (BLM & USFS) lands would increase at notably different rates. Hunting and fishing would increase by only 56% but snow activities would increase by 97%. Assuming the increase projections occurring form the 1980 to 2000 time period would be the same for 1995 through 2015, the estimated recreational use in the resource area in the year 2015 is shown in Table RECT-6. This level of recreation use is projected in all alternatives. By the year 2015, overall recreation use is projected to increase 70% over 1995 levels.

The extent to which recreational users are affected by landscape changes is influenced by personal expectations and the type of experience sought. In the case of those seeking primitive or semi-primitive nonmotorized settings, further modification of the resource area by rangeland management facilities or by OHMV use would likely be unacceptable. In the case of OHMV users who seek semi-primitive motorized settings or more developed settings, there are two general types. There are those who use vehicles primarily as a mode of transportation to seek out interesting landscapes or experiences. These are the sightseers or those who drive for pleasure and may include trail bike riders, ATV users and 4X4 truck users. These users are generally content using existing roads and trails and may not enjoy the presence of new vehicle routes that detract from the scenic character of the landscape. These users are often referred to as "trail riders". The other type of users are those off-road vehicle (ORV) users that enjoy cross-country travel. These users are often referred to as "ORV" users. The ORV users may operate the same types of vehicles as the trail riders, but vehicle performance and the physical agility and strength required to operate them at high speed or on difficult terrain are necessary elements for a satisfactory recreational experience. These users may tolerate a higher degree of landscape disturbance without it affecting the quality of the recreation experience. Many individual OHMV users can be a combination of both user types depending upon what expectations they have for a particular geographic area.

Both trail riders and ORV riders, as well as BLM, recognize that increasing use of the existing trail system on the Owyhee Front is causing an ever increasing trail maintenance burden. Trail conditions are, in part, contributing to unauthorized development of new trails, widening of existing trails, formation of moguls, conversion of motorcycle/ATV trails to jeep trails, and the need to close and re-route select trail segments. These conditions are increasing the need for more on-the-ground management in terms of maintenance, enforcement and education. The recreation user is responding to these conditions by encouraging BLM to authorize new trails, by extending the OHMV experience southward into the Owyhee Mountain Range (particularly in the Silver City area), or by being displaced to other Federal areas. Some trail riders consider trail areas in the vicinity of the Hemingway Butte and Rabbit Creek OHV Trailheads of insufficient quality to ride and have sought out new riding areas; the ORV users are requesting new trails along the Owyhee Front, including areas in the adjoining Bruneau Resource Area to the east of Castle

Creek. The southward push is resulting in increased use of the existing network of dirt roads and jeep trails in the Jordan Creek GRA and the formation of unauthorized OHMV trails along what were once historic livestock or game trails. Additional trails are now developing in the remote regions of the Owyhee River GRA. Until such time as OHMV designations can be posted throughout the resource area, expansion of OHMV activity will likely continue unabated. Posting would only slow unauthorized use, not stop it, unless education and enforcement programs can be increased.

Between 1981 and 1990, numerous rangeland facilities have been constructed to improve overall vegetation condition and protect some riparian areas. Intensive grazing systems required 264 miles of new fence, 127 stock ponds, 24 spring developments, 65 miles of pipeline and 26 miles of wildlife exclosures. These projects were added to other projects in place prior to 1981. Most projects resulted in adding new jeep trails to the recreation setting and each project affected the natural character of the area, primarily in the Snake River and Jordan Creek GRAs. Recreation users now encounter numerous wire gates while traveling the many dirt roads and jeep and motorcycle trails within the resource area, particularly in the northern half. Cattleguards are often placed at road/fence intercepts to mitigate impacts on motorized recreation experiences. In one region of the Owyhee Front between the Hemingway Butte and Rabbit Creek OHV Trailheads, 48 cattleguards were placed in existing dirt roads and motorcycle/ jeep trails crossed by new fencelines built since 1981 to mitigate impacts on semi-primitive motorized recreation experiences. At least another 60 cattleguards are needed in the Owyhee Front alone to mitigate for livestock fencing. In the remainder of the resource area, another 52 cattleguards have been placed in fence/road intercepts since 1981. Earthen dams impounding small drainages and wire fences inhibiting access to springs and stream channels are also common.

Special Recreation Permits

There are currently eleven (11) special recreation permits (SRPs) issued annually or on a five-year basis to commercial outfitting services. Six of the SRPs are for Owyhee River outfitters and five (5) are for land-based outfitters. Recurring annual or five-year competitive SRPs (4) are granted to a group of Treasure Valley field dog clubs and to the Southwest Idaho Desert Racing Association. SRPs for competitive horse endurance and mounted orienteering events (Idaho Mounted Orienteering) are also being authorized by specific event or under 5-year permits.

WILDERNESS

Section 603 of FLPMA requires the review of all public lands for wilderness values. Those found to have wilderness characteristics during inventories conducted between 1979 and 1985 were designated as wilderness study areas (WSAs). There are 298,630 acres of public lands associated with 13 WSAs within the Owyhee Resource Area. See Map WNES-1. Of this acreage, 294,740 acres are Section 603 wilderness study area lands and 3,890 acres are Section 202 (FLPMA) study lands which are contiguous to the WSA lands. The Section 202 study lands were identified during the wilderness study/EIS process when non-Federal lands adjacent to WSAs came under the jurisdiction of the BLM. This jurisdictional change occurred as a result of the South Mountain Exchange and because proposed wilderness study boundaries needed to be adjusted slightly to improve management of the wilderness proposal. Non-Federal lands acquired by the BLM during the South Mountain exchange which lie within the WSAs are now considered part of the WSAs.

The wilderness study areas in the Owyhee Resource Area are contiguous to or adjoining an additional 364,147 acres of study areas in the Bruneau, Jordan and Elko Resource Areas of Idaho, Oregon and Nevada respectively. Table WNES-1 shows the acreage for the affected WSAs in the three State area.

All WSA lands must be recommended to Congress as either suitable or nonsuitable for wilderness designation. There are 195,980 acres of public lands in the Owyhee Resource Area which have been recommended as suitable for wilderness designation. Adjoining this acreage there are an additional 237,965 acres recommended as suitable in the Bruneau, Jordan and Elko Resource Areas of Idaho, Oregon and Nevada respectively. Public lands recommended suitable for wilderness designation are shown in Table WNES-2. Those recommended suitable in the Owyhee Resource Area (for all alternatives) are shown below.

Until Congress takes action on the BLM recommendations, all WSA lands will be managed in accordance with the BLM's Wilderness Interim Management Policy and Guidelines for Lands Under Wilderness Review (H-8550-1, 1987) (Wilderness IMP), to prevent impairment of wilderness suitability. Section 202 study lands will be managed for unnecessary and undue degradation under authority of Section 302 of FLPMA.

Additional information on the wilderness recommendations can be found in the Owyhee Canyonlands Wilderness EIS and the Owyhee Wilderness Amendment EIS, available at the Boise Field Office.

Recommended Wilderness Areas in the Owyhee Resource Area

WSA #	WSA Name	Acreage
ID-16-40	North Fork Owyhee River	41,025
ID-16-48B	Owyhee River Canyon	35,620
ID-16-48C	Little Owyhee River	16,330
ID-16-49A	Owyhee River - Deep Creek	47,840
ID-16-49D	Yatahoney Creek	4,425
ID-16-52	Juniper Creek	5,785
ID-16-53	South Fork Owyhee River	44,955
Total		195,980

VISUAL RESOURCES

The Federal Land Policy and Management Act of 1976 (FLPMA) requires that the BLM consider the effects management actions have on the visual quality of the natural landscape. To protect visual resources, all public lands are assigned a visual resource management (VRM) classification based upon an evaluation of scenic quality, distance zones (viewsheds from travel corridors or observation points), and public sensitivity toward scenic quality. The visual resource management objectives for each of four possible classifications are described in Appendix VISL-1.

The visual resources in the Owyhee Resource Area were inventoried during the preparation of the Owyhee and Bruneau MFPs. The visual resource management (VRM) classifications identified during these two planning efforts are generally appropriate for use in the Owyhee RMP, except with regard to some special designation lands. Public sensitivity has resulted in changes in VRM classifications from those originally assigned in the Owyhee and Bruneau MFPs. The special designation areas, both existing and proposed, require a higher sensitivity rating than may have been previously identified; thereby rendering some affected lands with a higher VRM classification. The BLM special administrative designations which call for preserving pristine or primitive landscapes have been managed as Class II areas. No VRM Class I areas have yet been delineated. Class I determinations were withheld until the Owyhee RMP. Any lands congressionally designated as wilderness or national wild rivers would be reclassified as VRM Class I areas regardless of what current administrative designations may apply.

Congressional release of some WSA lands would result in the affected lands being reclassified as VRM Class IV areas. These classified WSA lands would include areas not incorporated within BLM special administrative designations. Without wilderness considerations, nor consideration under any BLM special designation, the affected lands are too remote and lack sufficient scenic quality to be rated higher than VRM Class IV.

The delineation of VRM classifications is shown on Map VISL-A. The public land acreage identified for each of the classifications within the resource area is listed below. The VRM management designations apply only to the Federal lands in the resource area.

Class I:	0 acres
Class II:	298,376 acres
Class II-IMP:	124,810 acres
(converts to Class IV if wilderness designations do not occur).	
Class III:	146,881 acres
Class IV:	749,584 acres
Total:	1,319,651 acres

Existing recreation site developments are few and widely scattered and generally do not affect the scenic quality of the resource area as a whole. Recreation sites have been designed to reflect concern for the four basic elements of the characteristic landscapes found in their viewsheds; line, form, color and texture. Except for the Little Squaw Creek Recreation Site which was developed to enhance recreation opportunities for field dog trials where no present visual impacts exist, recreation development has generally been undertaken to mitigate existing or projected adverse site-specific impacts on recreation and visual resources brought about by concentrated use and often abusive visitor behavior. In the case of the Owyhee Front OHV Trailheads and Jump Creek Recreation Site, facilities would continue to alleviate OHMV-generated soil damage, public health (human waste and toilet paper debris), and excessive soil damage caused by indiscriminate foot trailings in sensitive vegetation communities. All these factors are contributing to a decline in visual quality at frequently used recreation sites. The North Fork Campground development and other similar site developments would reduce potential visual damage to more remote recreation sites as more and more people venture into the Owyhee Uplands plateau.

Off-highway motorized vehicle (OHMV) use of the Owyhee Front has already resulted in a serious decline in visual quality in several areas including:

The unnamed butte adjacent to Highway 78, west of Wilson Creek Road.

Hemingway Butte adjacent to Reynolds Creek Road.

West Rabbit Creek area adjacent to Highway 78, west of Murphy.

Jump Creek Canyon west of Highway 95, in the Homedale area.

Historically these areas have been used as "hill climbing" sites where OHMV users repeatedly climb and descend steep slopes with motorcycles, all-terrain vehicles (ATVs), 4X4 trucks, and dune buggies. This activity has left substantial portions of the butte areas void of vegetation and suffering from rill and gully erosion. The soils in the butte areas are generally whitish-brown in color and when denuded of vegetation, the hill climb areas are quite noticeable from great distances. The Hemingway Butte and Jump Creek hill climbs can be readily distinguished for miles north of the Snake River in Canyon County. The "unnamed butte" and Hemingway Butte hill climbs are immediately adjacent to major travel corridors and affect the scenic vistas of numerous tourist and sightseeing travelers. The majority of the West Rabbit Creek hill climbs are outside of the Highway 78 viewshed. The adverse impacts on scenic quality at all these areas are substantial. Throughout the Owyhee Front, individual trails rising vertically up the sides of numerous buttes and draws also cause localized degradation of scenic quality.

A major contributor to visual impacts in the resource area has been locatable and fluid mineral exploration and development activities. Cumulative impacts on visual quality in the Snake River and Jordan Creek geographic reference areas from past and existing mining are already considered to be substantial. Past exploration efforts of the early-20th Century in the Snake River area have left behind numerous disturbed areas throughout the lower and middle elevations of the Owyhee Mountains. The most notable are those of the Reynolds-Hardtrigger-Rats Nest Creek area of the Owyhee Front SRMA. Mountain sides have been disturbed, often by bulldozers and other heavy equipment and many have been left unrehabilitated, exposing underlying lighter colored bedrock that is readily visible as an unnatural element of the landscape within numerous viewsheds. Numerous white-posted mining claim markers identifying sites of potential future exploration activities are visible on the landscape. Historic visual impacts from mineral development in the 19th Century also exist at higher elevations around Silver City, including mine tailings extending downslope from mine shafts and mill sites. While the 43 CFR 3809 regulations now prohibit the "unnecessary and undue degradation" exhibited by much of the past exploration activities, the use of heavy equipment to move large amounts of side slope material makes rehabilitation to an "unnoticeable state" an unrealistic objective for visual resource management in many areas of the Owyhee Mountains.

Exploration activities for the Stone Cabin Mine, at the upper northwest elevations of Florida Mountain on the south side of the Jordan Creek watershed near Silver City, have left a mountain top partially devoid of vegetation and reshaped into a series of cut-and-fill terraces. There is a high probability that mineral development such as that of DeLamar and Florida Mountain will spread to other nearby mountains, further degrading the scenic resources of the Owyhee Mountain Range as a whole. The size and nature (open-pit mining) of the modern exploration and development activities have a very high probability of causing additional irreversible and irretrievable losses of scenic quality in the Owyhee Mountains.

CULTURAL RESOURCES

Prehistoric cultural resource sites, which date from about 10,000 B.C., are found throughout the resource area Higher concentrations of sites have been noted in two elevation zones: 2,600 - 3,300 feet and 4,800 - 6,000 feet. Site types include village or camp sites and associated activity areas. Historic cultural resources in the area include early ranching and mining sites dating from the late 19th century, and historic trails, such as the Oregon Trail.

Data derived from cultural resource inventories (1978; 1982) show that 574 prehistoric and 24 historic cultural resource sites have been recorded in the resource area. Many of these sites are in poor condition as a result of weathering and decay (276 sites or 54.8%). Damage to sites from livestock trampling (12.5%) ranked second and is a contributing factor in weathering and decay. Vandalism accounts for an additional 9% and scientific collection and excavation, while contributing to scientific knowledge, has destroyed 41 sites, or 8% of the total.

Initial steps designed to stabilize or protect cultural resource sites have been taken through the nomination of selected sites and areas to the National Register of Historic Places. These include the Guffey Butte/Black Butte Archaeological District, The Silver City and DeLamar Historic Districts, and portions of the Oregon Trail. See Map CULT-1.

Cultural resource sites, both historic and prehistoric, are projected to continue to deteriorate from the factors mentioned above.

The primary guidance for the management of cultural resources is contained within Section 110 of the National Historic Preservation Act of 1966 (NHPA) and the Archaeological Resources Protection Act (ARPA). Section 106 of the NHPA addresses the responsibility to include consideration of cultural resources in all agency management activities.

HAZARDOUS MATERIALS

At present, the following sites in the RMP area are on the Federal Facilities Hazardous Waste Compliance Docket (these sites are also listed on CERCLIS):

Pesticide Dump Site, Reynolds	ID4141190013
Pesticide Dump Site, Sec. 5	ID3141190014
Delamar Silver Mine	IDD980978415
Owyhee Co. Marsing/ Homedale LF.	IDD980497515
Hulet Dump	IDD1411A0015
Owyhee Co. Wilson Creek LF.	ID4141190010

The Reynolds, Sec. 5, and Hulet Dump sites have been cleaned up and are awaiting an EPA designation of no further action (Preliminary Assessment (PA) or documentation of removal was submitted to EPA in 12/91). The Wilson Creek landfill was closed in 1990 (PA submitted to EPA 12/91). The Owyhee Co. Marsing/Homedale landfill was closed in 1994 (PA submitted to EPA 12/91). The Delamar Silver Mine is still an active operation with the major portion of the heap leach pond and mine waste pits on public lands.

Many of the hazardous material incidences on the public lands are the result of illegal dumpings (ie. pesticide containers). This type of action will probably continue with an upward trend due to restrictions on disposal and closures of local landfill operations.

Right-of-Ways represent another source of hazardous materials. These include powerlines (PCBs from transformers) and pipelines (oil and gas).

Mining operations, especially those associated with the cyanide heap leach process, are a potential source of hazardous materials. These are in the form of mine waste, processing chemicals and fuels. The Delamar Silver Mine is the most prominent operation. The Stone Cabin Mine will probably add additional materials.

Current BLM policy is that no public lands will be leased or permitted for the storage, treatment, or disposal of hazardous waste, nor will public lands be leased for purposes of sanitary landfills. Lands may be sold or exchanged for these purposes under the appropriate lands action.

All hazardous materials incidences on public lands are handled as outlined in the Idaho BLM Contingency Plan for Hazardous Materials Incidents. All actions are consistent with current Federal and State regulations. All Lands and Minerals actions are reviewed both internally and externally (if appropriate) for compliance with Federal and State regulations. Special stipulations are also developed as part of the permit or lease to safeguard human health, environmental damage, and Bureau liability.

An increase in the amount of both solid and hazardous waste illegally dumped on public lands is projected. Educating the public about this situation and more law enforcement should help curtail this situation.

Many of the landfills that have closed or are closing will be subject to further investigation and possible corrective action as more information of past hazardous material activity becomes known.

An inventory of potential hazardous waste sites was implemented in 1992. This inventory covers mine sites, lease and permit sites, ROWs, and any other activities that may have produced a hazardous materials incident on public lands.

Studies relating to the mercury problem in the Owyhee River watershed will be an ongoing process in the resource area. Historic mining operations utilized large amounts of mercury in the processing of gold. Releases of this mercury to the Jordan Creek system were common.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

ACECs are defined in the Federal Land Policy and Management Act of 1976 (FLPMA) as areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect human life and safety from natural hazards. Designations of Research Natural Areas (RNAs), Outstanding Natural Areas (ONAs), and Natural Hazard Areas (NHAs) as ACECs are identified as possible determinations made in this planning effort.

There are two existing ACECs in the Owyhee Resource Area: a portion of the Owyhee River Bighorn Sheep Habitat Area and a portion of the Guffey Butte/Black Butte Archaeological District. There are also two existing ONAs in the resource area; the Boulder Creek ONA and the North Fork Juniper Woodland ONA. Public participation and BLM staff input has resulted in these four areas and 15 additional areas being considered for ACEC designation and special management to protect the resource values identified. Table ACEC-1 summarizes the information reviewed by the interdisciplinary team during their evaluation of these areas under the relevance and importance criteria and other guidance identified in BLM Manual 1613. The locations of the four currently designated areas are shown on Map ACEC-A. Detailed site descriptions follow.

Guffey Butte/Black Butte Archaeological District (5,552 acres; Cultural resources)

The Guffey Butte/Black Butte Archaeological District was designated as an ACEC on March 30, 1983 in the Kuna Management Framework Plan. The boundary encompasses 32,228 acres (26,714 public land acres) along 33 miles on both the north and south sides of the Snake River Canyon and corresponds with the Snake River Birds of Prey Natural Area boundary established in 1971. This area is within the Snake River Birds of Prey National Conservation Area established in 1993 by Public Law 103-64. About 5,552 acres of the Guffey Butte/Black Butte ACEC are within the Owyhee Resource Area and will be addressed in this RMP. The remainder of the ACEC is located in the Bruneau Resource Area and is not addressed in this planning effort.

The Guffey Butte/Black Butte Archaeological District has long been known to be an area of intense prehistoric occupation. Its significance was recognized by its placement on the National Register of Historic Places in February, 1979. The 114 sites which comprise the district include a wide diversity of historic and prehistoric sites. The historic sites include Swan Falls Dam, Guffey townsite and railroad bridge, and the Halverson Bar mining settlement. A portion of the Oregon Trail also passes through the area. The prehistoric sites include a spectacular rock art site known as the Wees Bar petroglyph field and Shellbach Cave, the first scientifically excavated site in Idaho.

Owyhee River Bighorn Sheep Habitat Area (148,360 acres; Bighorn sheep)

The Owyhee River Bighorn Sheep Habitat Area was designated as an ACEC on March 30, 1983 in the Bruneau and Owyhee Management Framework Plans. The boundaries of this ACEC currently encompass 180,000 acres along the Owyhee River and in the Battle Creek-Deep Creek-East Fork Owyhee River and the South Fork Owyhee River areas; 136,840 acres are in the Owyhee Resource Area with the remainder in the Bruneau Resource Area. The ACEC was designated to protect and enhance habitat for bighorn sheep, to maintain or improve the habitat to at least a good range condition class, and to protect and maintain the scenic and natural values present in the area. Habitat evaluation has resulted in identification of an additional 11,520 acres of suitable bighorn sheep habitat for a total of 148,360 acres under consideration. The ACEC is located within the following six Wilderness Study Areas (WSAs) of the Owyhee Resource Area: Owyhee River Canyon, Little Owyhee River, Owyhee River-Deep Creek, South Fork Owyhee River, Yatahoney Creek, and Juniper Creek. All six of these areas have been recommended as suitable for wilderness designation

California bighorn sheep, a sensitive species which formerly occupied this region, were reintroduced into this area during the 1960's. It is estimated that about 500-700 bighorns occupy this area at the present time and it is anticipated that the populations will continue to expand into adjacent habitat in Nevada. The bighorns have already extended their range into the adjacent habitat in Oregon. In addition to bighorn sheep, the area also contains numerous rugged, deep canyons which have exceptionally high scenic quality, and the Owyhee River, a popular early spring whitewater boating river. This river segment has been identified as eligible for potential suitability as a nationally designated Wild River. It has also been designated as a Stream Segment of Concern (SSOC)

Boulder Creek (4,557 acres; Scenic values, Wildlife resources)

Boulder Creek is comprised of a deep, winding canyon which cuts through a basalt and rhyolite tableland. A 10,000 acre area was recognized as an Outstanding Natural Area (ONA) in the 1981 Owyhee MFP based on high scenic values and multiple natural resource values. Interdisciplinary analysis concluded that 4,557 public land acres within a 5,200 acre boundary meet the ACEC criteria. The Boulder Creek canyon and adjacent Rock Creek canyon have been identified as eligible for potential suitability as a nationally designated Wild River.

The dominant plant communities represented in the area include western juniper-Idaho fescue (Juniperus occidentalis-Festuca idahoensis) and western juniper-low sagebrush (Artemisia arbuscula), in addition to the riparian shrub component. Boulder Creek also contains redband trout, a BLM sensitive species.

Cinnabar Mountain (277 acres; Plant communities)

Cinnabar Mountain, on the eastern edge of the Owyhee Mountains and at an elevation of 7000 feet, contains excellent examples of reasonably undisturbed high elevation mountain mahogany (Cercocarpus ledifolius), Douglas-fir (Pseudotsuga menziesii), and subalpine fir (Abies lasiocarpa) communities. It also includes a low sagebrush-bluebunch wheatgrass (Agropyron spicatum) community on a windswept portion of Hayden Peak. Extensive historical as well as current use of the Owyhee Mountains has resulted in few such communities in excellent condition. Therefore, Cinnabar Mountain serves as a valuable rangeland reference area. Because of its elevation, Cinnabar Mountain also has high scenic values. This area qualifies as a Research Natural Area.

Coal Mine Basin (2,393 acres; Special status plants, Paleontological resources, Biological diversity)

The extensive and colorful ash beds present in Coal Mine Basin contain a diverse assemblage of plant communities, a BLM special status plant species, high scenic values, and fossils of both vertebrates and plants. Smooth stickleaf (Mentzelia mollis), a narrow endemic and BLM sensitive plant species is present on several sites. Plant communities include Wyoming sagebrush-bluebunch wheatgrass (Artemisia tridentata ssp. wyomingensis), mountain mahogany-Idaho fescue, Wyoming sagebrush-Idaho fescue, Great Basin wild rye (Elymus cinereus), needle-and-thread grass (Stipa comata), and several others. Fossils of roots, leaves, fish, Oreodonts, and horses may be found throughout the area. The layering and color variation of the ash flows, combined with their topographic relief, create a rugged and highly scenic landscape. This area qualifies as a Research Natural Area. Seven hundred seventy-five (775) of the 2,392 acres are managed by Vale District, Oregon BLM. This planning document addresses designation of the entire 2,393 acres.

Hells Creek (260 acres; Plant communities)

Hells Creek contains a montane woodland of relatively undisturbed climax western juniper and Idaho fescue. These communities occur only in areas where bedrock is at or close to the surface. Hells Creek is located within the Juniper Mountain area (see description below). It is also within the Squaw Creek Canyon WSA which was recommended non-suitable for wilderness designation. This area qualifies as a Research Natural Area.

Jump Creek Canyon (612 acres; Plant communities, Watershed, Riparian resources)

Jump Creek Canyon contains excellent examples of several different undisturbed riparian communities along its perennial stream, a BLM sensitive fish species (redband trout), pockets of excellent condition Wyoming sagebrush-bluebunch wheatgrass, and high scenic values. Riparian communities include syringa-red-osier dogwood (Philadelphus lewisii - Cornus stolonifera), water birch-syringa (Betula occidentalis), and a water birch gallery forest. Redband trout occur throughout the length of the creek. The presence of numerous waterfalls, springs, pools, and steep canyon walls have created a unique and highly scenic environment. A portion of the area is currently designated as a recreation site. Jump Creek was designated as a SSOC and has been identified as eligible for potential suitability as a nationally designated Wild River.

Juniper Creek Watershed (2,560 acres: Watershed, Riparian resources)

Juniper Creek Watershed contains a representative example of a riparian plant community along its perennial stream, a BLM sensitive fish species (redband trout), and provides high quality habitat for several bat species, including the BLM sensitive Spotted and Townsend's Big-eared bats. The riparian community is dominated by willow species (Salix ssp.). Juniper Creek Watershed has Class A scenic values, and has been designated as a Public Water Reserve (PWR). The area is within the North Fork Owyhee River WSA which was recommended suitable for wilderness designation, has been designated a Stream Segment of Concern, and has been identified as eligible for potential suitability as a nationally designated Wild River. Juniper Creek Watershed was nominated by the Desert Group for ACEC designation.

Juniper Mountain (83,431 acres; Special status plants, Plant communities, Watershed, Riparian resources)

Juniper Mountain, at about 6600 feet, is the headwaters of seven major stream systems and forms a critical watershed for many thousands of acres. As the name suggests, Juniper Mountain itself is extensively forested by western juniper, mixed with Idaho fescue and mountain big sagebrush (A. t. ssp. vaseyana). Mountain shrubs such as chokecherry (Prunus virginiana), snowberry (Symphoricarpos oreophilus), bittercherry (Prunus emarginata), and aspen (Populus tremuloides) are present in the moister locations. Shallow, rocky soils are often occupied by climax juniper and mountain mahogany. Juniper Mountain is partially within three WSAs, Squaw Creek Canyon, Middle Fork Owyhee River and West Fork Red Canyon, which were recommended non-suitable for wilderness and two WSAs, Owyhee River Canyon and Owyhee River-Deep Creek, which were recommended suitable for wilderness designation. A portion of the Juniper Mountain area (11,520 acres) overlaps with the Owyhee River Bighorn Sheep Habitat Area and has been identified as eligible for potential suitability as a nationally designated Wild River. The area provides important spring, summer, and fall mule deer range. All major streams are occupied by the BLM sensitive fish species, redband trout. Several BLM sensitive plant species are present within the proposed boundary, including Osgood Mountains milkvetch (Astragalus yoder-williamsii), Simpson's hedgehog cactus (Pediocactus simpsonii var. robustior), rattlesnake stickseed (Hackelia ophiobia), white eatonella (Eatonella nivea), and dimersia (Dimersia howellii). Declining resource conditions are an important factor in determining the need for special management for this area. There are 64,311 public land acres within a 65,028 acre boundary initially identified by BLM staff. The Desert Group identified an additional 19,120 acres northwest of this area for a total of 83,431 acres.

Lambert Table (18,002 acres; Cultural resources)

Prehistoric sites within this area are significant because of a number of factors. The first of these is the large number of sites within a discrete area, and the resulting site density, which is unusual when compared to other areas within the Lower Snake River District. The second factor is the unusual lithic material encountered almost exclusively in these sites (a red, green, or yellow jasper, some of which may have been quarried from nearby Red Canyon). The third factor is the proximity of these sites to the Owyhee River corridor, which may have been used as a zone of microenvironmental exploitation by Native Americans inhabiting the Lambert Table area. There are 18,002 public land acres within a 18,640 acre boundary. One hundred twenty-six (126) acres of the Lambert Table area overlap with The Badlands area. Portions of Lambert Table are also within the Owyhee River Bighorn Sheep Habitat Area and within the Owyhee River-Deep Creek WSA which was recommended suitable for wilderness designation. Where Lambert Table encompasses the Owyhee River canyon, SSOC designation and eligibility for potential suitability as a nationally designated Wild River also apply.

McBride Creek (250 acres; Special status plants)

McBride Creek provides habitat for three BLM sensitive species, including smooth stickleaf, barren milkvetch (Astragalus sterilis), Cusick's false yarrow (Chaenactis cusickii), and Malheur yellow phacelia (Phacelia lutea var. calva). All three are limited in distribution to volcanic ash flows on or near the Idaho-Oregon border. The area qualifies as a Research Natural Area.

North Fork Juniper Woodland (9,322 acres; Plant communities, Watershed, Riparian resources)

This area includes the North Fork Owyhee River Canyon and several tributary drainages which shed water from rhyolitic rock outcrop uplands at 5,000 to 5,800 feet elevation. This area was designated as an Outstanding Natural Area (ONA) in the 1981 Owyhee MFP. The area was also evaluated on the basis of "illustrative character, condition, diversity, rarity, and value for science and education" and, in 1987, the National Park Service recommended that the area be designated the North Fork Owyhee River National Natural Landmark (NNL) as the best example of a "montane western juniper woodland subtheme" in the Columbia Plateau Natural Region.

This area is dominated by a canopy of old-growth and mature stands of western juniper, with an upland understory of Idaho fescue intermingled with low sagebrush. Willow (Salix ssp.), chokecherry, dogwood, alder (Alnus ssp.), currant (Ribes ssp.), wild rose (Rosa woodsii), sedges (Carex ssp.) and grasses are dominant along the perennial and intermittent stream channels in the canyon bottoms. Redband trout, a BLM sensitive species, occurs within the North Fork Owyhee River. This river segment has been identified for potential suitability as a nationally designated Wild River. The area is also within the North Fork

Owyhee River WSA which has been recommended suitable for wilderness designation. There are 4,202 public land acres within a 4,384 acre boundary initially identified by BLM staff. The Desert Group identified an additional 5,120 acres north of this area for a total of 9,322 acres.

Pleasant Valley Table (1,467 acres; Plant communities)

Present within Pleasant Valley Table are excellent examples of Owyhee sagebrush-Poa secunda (Artemisia papposa) and low sagebrush-Idaho fescue community types. The area has remained relatively undisturbed due to its rocky terrain. Owyhee sagebrush was at one time listed as a special status plant species in Idaho, but it has since been removed from that list. Although it is still a regional endemic, it is more common than previously believed. However, extensive and good condition communities dominated by this species are rare. Pleasant Valley Table also contains a rare community type occupied by silver sagebrush (Artemisia cana) and Idaho fescue. The entire area is within the North Fork Owyhee River WSA which has been recommended suitable for wilderness designation. This area qualifies as a Research Natural Area.

Rooster Comb Peak (8,178 acres; Cultural resources)

Prehistoric cultural resources within this area are of a habitation type which is found only at or near springs at elevations near 6,000 feet. More than 50 such sites have been recorded on public land in this area and are considered to be worthy of preservation and conservation for scientific use. This area appears to satisfy the requirements for nomination to the National Register of Historic Places as a prehistoric site district. In addition, many significant and historic mining related sites have been recorded in this area. It is not known how many additional sites of both types may be located on adjacent parcels of private and State land. There are 8,178 public land acres within a 19,769 acre boundary.

Sinker Creek (2,125 acres; Cultural resources)

This area is significant because of its association with early exploration and settlement themes. The historic Oregon Trail route passes through the eastern half of this area, ascending a steep slope to the plain above the nearby Snake River. Wagon ruts are visible along 3/4 mile of the existing trail, some of which have been worn into the basalt over which settler's wagons traveled. The Otter (or "Utter") massacre, during which a party of settlers traveling the Oregon Trail were slain by Native Americans, is said to have taken place along this segment of the trail. Both Native American and Euroamerican artifacts have been found here, and several graves are located nearby. There are 2,125 public land acres within a 2,794 acre boundary. This area is within the Snake River Birds of Prey National Conservation Area and 280 acres are within the Guffey Butte/Black Butte Archaeological District ACEC.

Squaw Creek (150 acres; Plant communities)

Two of the three physically separated portions of Squaw Creek are represented by excellent condition, low elevation Wyoming sagebrush-bluebunch wheatgrass communities. The northern parcel of these two is within the Wild Horse Herd Management Area. These two areas have been partially protected from livestock grazing by a lack of water, topography, and the presence of an old roadcut on all but one side. The third area burned about 10 years ago, and is now a bluebunch wheatgrass community, with the Wyoming sagebrush just beginning to return. It is also in excellent condition due to nearly complete isolation from grazing for many years. All areas contain an extensive cryptogamic soil crust, resulting in little exposed soil. Squaw Creek is particularly valuable as a rangeland reference area, since so few low elevation bunchgrass communities in excellent condition remain. This area qualifies as a Research Natural Area.

The Badlands (3,619 acres; Special status plants, Plant communities)

The broken volcanic topography of The Badlands yields an area of high scenic value and diverse botanical features. The area's dominant plant communities include western juniper-low sagebrush-Idaho fescue and an uncommon bunchgrass community comprised of California oatgrass (Danthonia californica), with lesser amounts of Idaho fescue. The global distribution of the latter community, present only in dry washes and small upland pockets within The Badlands, is unknown, but it is presumably uncommon in Idaho. Simpson's hedgehog cactus, a BLM sensitive plant species, is present where other vegetation is sparse and soils are thin and rocky. Bailey's ivesia (Ivesia baileyi), a regional endemic of rhyolitic canyon walls, also occurs on suitable habitat within The Badlands. This area qualifies as a Research Natural Area. BLM staff initially identified a boundary of 1,059 public land acres. The Desert Group identified an additional 2,560 acres north of this area for a total of 3,619 acres. One hundred twenty-six (126) acres of The Badlands area overlaps with the Lambert Table area.

The Tules (113 acres; Plant communities)

The Tules is an abandoned oxbow of the Owyhee River where the river is incised 300 feet into the Owyhee Plateau. Most of the area is isolated from grazing by the steep canyon walls. It is located within the existing Owyhee River Bighorn Sheep Habitat Area ACEC, the Owyhee River SRMA and the Yatahoney Creek WSA. The river also has been designated a SSOC and has been identified for potential suitability as a nationally designated Wild River. The Tules contains a diverse assemblage of plant communities, from riparian to upland. Its riparian communities include red-osier dogwood-coyote willow (Salix exigua), hardstem bulrush (Scirpus acutus), and water sedge-beaked sedge (Carex aquatilis - C. rostrata). Upland communities of seven different types are present, including mountain big sagebrush-bluebunch wheatgrass, basin big sagebrush-needle and thread grass (A. tridentata ssp. tridentata), basin big sagebrush/ basin wildrye, low sagebrush-bluebunch wheatgrass, gray rabbitbrush-Poa secunda (Chrysothamnus nauseosus), and ninebark (Physocarpus malvaceus). In addition, the BLM sensitive plant species, rattlesnake stickseed, occupies portions of The Tules. This area qualifies as a Research Natural Area.

Upper Deep Creek (640 acres; Riparian resources, Scenic values, Wildlife resources)

Upper Deep Creek is a perennial stream characterized by a riparian plant community in excellent condition. Due to the canyon topography, scenic values are very high (Class A). Notable wildlife species that occur in the area include bighorn sheep, sage grouse, pronghorn antelope, and possibly peregrine falcons, which were observed in the vicinity in 1992. Rattlesnake stickseed and dwarf skullcap, both BLM sensitive plant species, are known to occur in this area. The 640 acres of Upper Deep Creek in the Owyhee Resource Area are within the Upper Deep Creek WSA, which was recommended non-suitable for wilderness. Upper Deep Creek is a SSOC and has been identified for potential suitability as a nationally designated Wild River. This area was nominated by the Desert Group for ACEC designation.

PALEONTOLOGICAL RESOURCES

Paleontology is the study of prehistoric life. Evidence of such life is preserved in the rocks of the earth's crust in the form of petrified remains and other indications of plants and animals. Not all fossils are of significant scientific or educational interest. However, all vertebrate fossils are categorized as being of scientific value because of their rarity in the geologic record. Management of paleontological resources on Federal land is covered primarily by the Federal Antiquities Act of 1906 which sets forth guidance relating to paleontological resources. The Act provides for protection of these resources on Federal lands. The FLPMA directs BLM to manage these resources in a manner that will protect them and provide for their proper use. BLM Manual 8100 provides additional guidance. Permits are generally required for excavation and collection of paleontological resources.

The only significant Tertiary aged vertebrate fossils from the State of Idaho have been collected from the Owyhee and Bruneau Resource Areas. Major collecting by qualified paleontologists in the Owyhee Resource Area has been by the United States Geological Survey, Idaho State University, the University of Michigan and the University of

California at Berkeley. Because of the close proximity of the Owyhee Resource Area to the highly populated Treasure Valley, amateur collectors abound. Some outcrops where fossils occur have been extensively excavated.

Since little inventory work has been done it is not known what additional paleontological resources currently exist.

Paleontological resources will be managed in the same general manner in all alternatives to maintain or enhance significant scientific, educational and recreational values. Consequently, they are not addressed in Chapter 2.

CAVE RESOURCES

The Federal Cave Resources Protection Act of 1988 requires agencies to identify and manage, to the extent practical, cave resources determined to be significant. Procedures for determining the significance of caves are found at 43 CFR Part 37. A cave is significant if it possesses one or more of the following features, characteristics or values: biota, cultural, geologic/mineralogic, hydrologic, recreational and/or educational or scientific values. The Act defines a cave as any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, and which is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Rock shelters which exist from the over hang or cliffs are not considered caves.

Little is currently known about the existence of caves in the resource area though geological structures provide the potential for caves in some portions the area.

Cave resources will be managed in the same general manner in all alternatives to maintain or enhance significant scientific, educational and recreational values. Consequently, they are not addressed in Chapter 2.

SOCIAL AND ECONOMIC CONDITIONS

Existing Management Situation

Though the Owyhee resource area is wholly contained within the western half of Owyhee County, the influence of the populated areas in Ada and Canyon Counties in Idaho and Malheur County in Oregon needs to be recognized. Therefore, this profile covers Ada, Canyon, Owyhee and Malheur Counties (see Map SOCE-1). This profile discusses these counties in total and, where possible, identifies the contribution made by public land in the resource area.

Population

The profile area surrounding the Owyhee RMP area is highly diverse. There are 21 incorporated cities in the area, with populations that range from under 25 to over 125,000. The 1993 estimated total population of the four-county region was 370,300 (U.S. Dept of Commerce, Bureau of Economic Analysis, Regional Economic Information System, 1995). Ada County accounts for 63.1% (233,800), Canyon County accounts for 27.1% (100,400), Malheur County accounts for 7.4% (27,300) and Owyhee County accounts for the remaining 2.4% (8,800). This compares to the 1990 Census figure of 332,600 for the profile area which equates to a 11.3% increase in population in just three years.

Population for Ada, Canyon and Owyhee Counties, Idaho and Malheur County, Oregon, 1990 and 1993

County	1990 Number	Percent of Total	1993 Number	Percent of Total	Percent Change 1990 to 1993
Ada	207,500	62.4	233,800	63.11	2.7
Canyon	90,600	27.2	100,400	27.11	0.8
Owyhee	8,400	2.5	8,800	2.4	4.8
Malheur	26,100	7.9	27,300	7.4	4.6
Total	332,600		370,300		11.3

Source: U.S. Dept of Commerce, Bureau of Economic Analysis, Regional Economic Information System, 1995.

Earnings

Total earnings in the four-county region in 1993 were $5,733 million (U.S. Dept of Commerce, Bureau of Economic Analysis, Regional Economic Information System, 1995). This consisted of $5,540 million in nonfarm earnings and $193 million in farm earnings. This level of 1993 nonfarm earnings represents a 35% increase since 1990. After adjusting for the effects of inflation (using the implicit GDP price deflator) this becomes a increase of 22.7% in real dollars. The 1993 farm earnings represent a 11% increase since 1990. This becomes a 1% increase after adjusting for inflation. Within the four-county region the services sector ranks largest in proportion to the rest of the sectors in the economy (in terms of earnings), followed by durable manufacturing, State and local government, retail trade, and construction. See Tables SOCE-1 and SOCE-2.

Employment

Total employment in the four-county region in 1990 was 201,811 (Bureau of Economic Analysis, Regional Economic Information System). This consisted of 9,226 farm jobs and 192,585 nonfarm jobs. The level of 1993 farm employment was 8,639 which represented a 6.4% decrease since 1990. The 1993 nonfarm employment level was 221,842 and represented a 15.2% increase since 1990. Within the four-county region the services sector ranks largest in proportion to the rest of the sectors in the economy (in terms of employment), followed by retail trade, manufacturing, State and local government, and finance. See Tables SOCE-3 and SOCE-4.

Employment for Ada, Canyon and Owyhee, Idaho and Malheur County, Oregon, 1990 and 1993

County	1990 Employment Farm	Nonfarm	Total	1993 Employment Farm	Nonfarm	Total
Ada	1,782	136,677	138,459	1,753	160,577	162,310
Canyon	3,341	40,863	44,204	3,343	44,925	48,268
Owyhee	968	2,227	3,195	970	2,609	3,579
Malheur	3,135	12,818	15,953	2,573	13,731	16,304
Total	9,226	192,585	201,811	8,639	221,842	230,461

Source: U.S. Dept of Commerce, Bureau of Economic Analysis, Regional Economic Information System, 1995.

Multipliers

When changes occur in one sector of a local economy, it triggers changes in other sectors of that economy. This is due to the interrelated nature of the economy. These changes are measured through the use of multipliers. The multiplier is a single number that summarizes the total effects that a change in final demand would have on individual sectors in the local or regional economy. Those multipliers for Owyhee County and the four-county region (shown in Tables SOCE-5 and SOCE-6) indicate that meat packing and other service providing sectors would provide the greatest impact per dollar expended in the local economy (Micro IMPLAN 1990).

Livestock Industry

In 1992 the cash receipts from marketing of meat animals (primarily cattle and calves, sheep and lambs) accounted for 53.2% of total farm cash receipts. This varied by county from a low of 46% in Canyon County, Idaho to a high of 74% in Ada County, Idaho. Assuming that farm earnings (wages and salaries) are in the same proportion as cash receipts, total earnings from meat animals in the four-county region would be 53.2% of total farm earnings for 1993, or $102.8 million (see Table SOCE-1).

The 1992 Census of Agriculture indicated that there are about 495,553 cattle and calves and 42,999 sheep and lambs in the four-county region. This would be 504,153 animal units. This means that each animal unit generates earnings of approximately $204.

The permittees in the Owyhee Resource Area have a total of 22,531 animal units which would generate earnings of $4,596,324 (wage and salary only, see Table SOCE-1). This would be 4.5% of the total four-county meat animal earnings and 2.4% of total farm earnings.

The total current active use on public lands in the Owyhee Resource Area is 115,144 AUMs. This would support 19,700 animal units (including calves) which would generate earnings of $4,018,800 (wage and salary only). This would be 87.4% of permittee earnings, 4.0% of four-county region meat animal earnings, and 2.1% of total farm earnings.

It is assumed that 53.2% of total farm employment in the RMP area is meat animal related (based on the relationship between receipts and earnings discussed above). This means that total meat animal employment would be 4,596 in 1993 (wage and salary only, see Table SOCE-3). Employment is assumed to be in the same percentages as earnings for permittees and BLM-AUM related employment. The earnings and employment statistics for livestock in the RMP area are shown following:

Estimated Earnings and Employment Livestock Industry, 1993

Category	Earnings	Percent of Total Farm	Employment	Percent of Total Farm
Total Farm	$193.3 million	100.0	8,639	100.0
Meat Animal	$102.8 million	53.2	4,596	53.2
Permittee	$4.6 million	2.4	208	2.4
BLM-AUMs	$4.1 million	2.1	182	2.1

Permit Values

As early as 1925 it was recognized that the annual value of the Federal grazing privilege was being capitalized into rancher property. "It is argued that long use of the range in connection with the early settlement of agricultural lands has resulted in capitalizing the values of public pasturage as part of the value of the ranch..." (USDA 1925).

A report published by the Utah State University Experiment Station stated: "There was nothing illegal or unethical in the fact that grazing permits took on value; ranchers just reacted to an economic situation that was created by government policy. Permit values rose because ranchers who have grazing permits were capturing economic rents in the form of low-cost grazing; i.e., the grazing fees and recognized non-fee costs did not equal the value of the grazing to ranches. Thus, the authorization to use the Federal lands and the associated economic rents were capitalized into rancher-owned assets. This value could show up either as a permit value or as an increased value of the commensurate property." (Nielson and Workman, 1972)

The Bureau of Land Management's position on permit values is based on very explicit language in Section 3 of the Taylor Grazing Act of 1934 which states: "So far as consistent with the purposes and provisions of this Act, grazing privileges recognized and acknowledged shall be adequately safeguarded, but the creation of a grazing district or the issuance of a permit pursuant to the provisions of this Act shall not create any right, title, interest, or state on or to the lands." Thus, any capitalized value associated with grazing permits has no legal basis, and, as a result, a rancher has no compensation for loss of this value.

Magazine articles and research results have often been in conflict on the subject of permit values. Nevada rancher, Dean Rhodes, in an article in the New West Magazine, stated that "the forage right for a single cow on the public range now sells for anywhere from $1,500 to $3,000 in the Elko area." (Boly, 1980.) A survey done in New Mexico for ranch appraisers and credit officers placed the value of Forest Service permits at between $944 and $1,163 per animal unit, depending upon the area in New Mexico. Bureau of Land Management values varied from $677 to $888. (Fowler and Gray 1980.) On the other hand, a study in eastern Oregon found "the inclusion of public grazing privileges were found to have no significant impact on the level of private grazing land sale prices." (Winter and Whittaker, 1979)

Crops

The 1993 four-county farm earnings resulting from the raising of crops is estimated at $90.5 million (see Table SOCE-1). This is based on the assumption that crop earnings is in the same proportion of farm earnings as crop receipts are of total farm receipts. The total value of 1992 crop receipts were 46.8% of total agricultural receipts.

Recreation

Much of recreation is not traded in the marketplace as are other commodities. How people value recreational experiences is often open to conjecture, speculation or down right guess work. However, methods have been devised to approximate what recreation users would be willing to pay for their experiences. The net willingness to pay for recreation attempts to measure what that recreation experience would be worth if it were traded as a marketable commodity. The following visitor day values for 1995 combined with the levels of recreation use by activity (for 1995), found in the recreation section of this chapter, help to identify the economic values people place on recreation in the Owyhee Resource Area (based on studies by Donnelly, Loomis, Nelson, Oldenburg, Peterson, Sorg, and Young).

Net Willingness to Pay Recreation Value

Activity	1995 Value
Deer Hunting	$40.02
Elk Hunting	$52.42
Antelope Hunting	$80.47
Other Big Game	$53.65
Waterfowl Hunting	$42.48
Upland and Small Game	$42.47
Warm Water Fishing	$39.28
Cold Water Fishing	$38.08
Developed Site Recreation	$7.45
Disbursed Use Recreation	$4.47
Non-Game Viewing, Photo	$28.31

Owyhee Resource Area Estimated Recreation Use and Value

Activity	Visitor Days 1995 *	Value 1995
Hunting	70,772	$3,816,617
Fishing	11,109	$429,682
Off-Highway Vehicles	24,600	$696,412
Other Motorized Use	22,616	$640,266
Non-motorized Use	10,669	$47,689
Camping	39,107	$291,344
Other Land Based	36,740	$717,113
White Water Boating	1,368	$38,714
Other Water Based	1,057	$29,917
Snowmobiling	2,301	$10,285
Other Winter Sports	423	$1,891
Total	220,762	$6,719,930

*Based on 8 Hours Per Visitor Day

Revenues and Receipts to Local Governments

The Federal government receives revenues for various activities on public land. These include livestock grazing, mineral leasing, land sales, and timber sales. Some of these fees are the major sources of revenue. Section 3 grazing fee receipts are distributed in the following manner: 37.5% to the Federal treasury, 50% to the Range Improvement Fund, and 12.5% to the counties. Mineral leasing fees are split, with 50% going to the Federal treasury, and 50% to the State. The State, in turn, passes 10% of its share on to the counties. Shown below are the receipts and distribution for Owyhee County for livestock grazing and mineral leasing in FY 1994.

Fee Receipts and Distributions Fiscal Year 1994

Source	Section 3 Grazing	Mineral Leasing
Federal Treasury	$245,214	$1,172
State Treasury	0	$1,067
Owyhee County	$81,688	$105
Range Improvement Funds	$326,902	0
Total Receipts	$653,804	$2,344

In addition, counties receive payments in lieu of taxes (PILT) for Federal lands within their boundaries. In FY 1994, this amounted to $342,000 for Owyhee County. None of these revenues represent a significant portion of the county's budget.

Chapter 4: Environmental Consequences

This chapter analyzes the environmental impacts of implementing the land use allocations and management actions (decisions) prescribed in Chapter 2 for each alternative. Fire Management and Lands are considered to be support functions and change agents that cause impacts and consequently do not appear in this chapter as being impacted. The baseline for impact projections in all alternatives is the current condition or situation, the affected environment described in Chapter 3. Impacts are projected in terms of short-term and long-term. Short-term is assumed to be approximately five years unless otherwise specified. Long-term is assumed to be approximately 20 years unless projected further. Professional judgement is used to project environmental impacts where data is limited. Professional judgement is based on observation, analysis of conditions and responses in similar areas.

The analysis for each alternative is presented by resource and has four sections; Change Agents, Impact Analysis, Conclusion and Meeting the Objectives. Change agents are based on land use allocations or management actions (decisions) that when implemented would cause or produce impacts. The impact analysis is a detailed description of the environmental impacts that would occur, both beneficial and adverse, and is presented in decreasing order of significance or importance within each resource. The conclusion is a summary of the overall impacts of the alternative on a resource. Meeting the objectives is a measure to what extent the alternative would meet the objectives over the long term. A comparison of meeting the objectives by alternative is displayed in the Summary section.

Relationship Between Local Short-term Uses of The Environment and the Maintenance and Enhancement of Long-term Productivity

The short-term uses of the environment are basically those activities, or management actions, described in Chapter 2 for each alternative that would occur on the public lands. Those activities would result in differences in long-term productivity, beyond 20 years, for each alternative. The differences are presented as long-term impact projections for each alternative.

Irreversible and Irretrievable Commitments of Resources

Implementation of any of the alternatives would limit potential future uses of the land and resources to some extent. Irreversible and irretrievable commitments of resources occur when future options are foreclosed or resource values are lost. The resource commitments are presented as long-term, and in some cases short-term, impact projections for each alternative.

Assumptions

In order to conduct the impact analyses of the alternatives a number of assumptions and projections were made. The following discussion identifies the assumptions and projections that were made for analytical purposes under all alternatives.

This RMP would remain in place and guide public land management in the Owyhee Resource Area for approximately 20 years. Funding and staffing levels would be sufficient to implement any of the alternatives over a 20-year timeframe.

Land disposal

Contingent upon site-specific analysis and clearances for special status plant and animal species and cultural resource values, any of the lands identified as potentially suitable for disposal in Table LAND-1 (173,922 acres) could be transferred from Federal ownership during. Based on previous and anticipated land actions in the Owyhee Resource Area, for analytical purposes it is projected that approximately 60,000 to 80,000 acres of the Federal lands potentially suitable for disposal would be transferred from Federal ownership during the next 20 years. Because of unknown exchange opportunities that may become available, the location of Federal lands that would be disposed of and the non-Federal lands that would be acquired is not projected. It is assumed for analytical purposes that where exchanges occur, non-Federal lands of equal or greater public value and benefit than those Federal lands being disposed of would be acquired and the amount of land acquired would be approximately the same as that which is transferred from Federal ownership. About 7,711 acres are identified as potentially suitable for disposal by sale (and disposal by other methods) contingent upon site-specific analysis and clearance. For analytical purposes, it is projected that approximately 3,000 acres of these Federal lands potentially suitable for disposal would be transferred, by sale, from Federal ownership over the life of the plan.

Locatable Minerals, Leasable Minerals and Mineral Materials

The rights to use these mineral resources would be transferred to the new land owner with transfer of Federal lands out of Federal ownership.

Oil & Gas Leasing

Because of the low potential for the occurrence of oil and gas reserves, discovery of a producible oil and gas field is not anticipated during the life of the plan. However, to perform an analysis of potential impacts and develop mitigating measures (stipulations and terms and conditions of a lease), a reasonably foreseeable development scenario was prepared. This scenario describes the discovery and development of a small oil field that could occur. This scenario is not site-specific but could reasonably be projected to be located in the area of low potential. Areas of oil and gas potential have been identified in the resource area and are shown on Map FLUM-1. Refer to the fluid minerals section in Chapter 3 for a description of the reasonably foreseeable exploration and development scenario and to Appendix FLUM-4 for a detailed description of typical oil and gas exploration and development activities. There would be opportunities for oil and gas leasing in all alternatives.

Geothermal Leasing

It is assumed that geothermal development would be minimal over the next 20 years. The low temperatures of the geothermal resource would support only relatively small local direct applications. No electrical generation is projected. Site specific impacts would be limited to small areas and would be mitigated by the stipulations identified for each alternative. These stipulations are the same as for oil and gas activities and are identified as fluid mineral constraints in Tables FLUM-A, FLUM-B, FLUM-C and FLUM-D.

Changes in Ecological Status

The following assumptions were made in order to project changes in ecological status:

1. Prescribed burns (sagebrush and juniper) would occur in those areas presently in a mid seral stage.
2. Prescribed burns would result in 60% of the total acreage identified actually burning because of mosaic patterns, terrain features and fuel loads.
3. Within 20 years 75% of the actual burned acreage would move from a mid to a late seral stage in those areas not seeded. In those areas that are seeded, 75% of the actual burned acreage would move from a mid seral to a treated category. This would result in 45% of the total acreage identified for prescribed burns, whether seeded or not, changing seral stage.
4. Juniper woodcuts would occur in those areas presently in an early seral stage. Woodcuts would occur on 100% of the acreage identified.
5. Within 20 years 50% of the total woodcut acreage would move from an early seral stage to a mid seral stage.

Range Projects

Rangeland projects identified in Table LVST-4 are not decisions. They are potential projects identified for analytical purposes that address the objectives, not only for livestock grazing management but for other resources as well. For analytical purposes it is assumed that all projects identified would be completed within 20 years and would be implemented evenly during this time period. It is assumed that one livestock/wildlife water source would be developed per mile of pipeline. Fences would be constructed to Lower Snake River District standards to allow passage of big game. Up to 10% of the acreage identified for prescribed brush burning and prescribed brush burning and seeding in each alternative could be treated by chemical or mechanical methods, except in Alternative D where mechanical treatments would not be done. Livestock grazing would not occur for one growing season prior to prescribed burning to assure adequate fuel buildup to carry a fire. Livestock grazing would not occur for two growing seasons following prescribed burning to assure adequate regrowth of vegetation except in Alternative D where three calendar-years rest is prescribed.

Livestock Grazing

In Alternative C, the July 15 end-of-grazing-season constraint was prescribed to assure that overwinter herbaceous stubble will be left in all streamside riparian areas to provide for the desired conditions of streambank and channel stability, improved vegetation composition and structure, and proper hydrologic functioning. The July 15 date was selected as an average date to assure that the residual stubble consisting of herbaceous riparian forage species will be a minimum of six inches in height. This should allow the desired conditions to be achieved and the riparian objective to be met. If this management action is ultimately adopted and when this constraint is implemented, monitoring would determine the appropriateness of the July 15 date and whether or not adjustments in that date are needed. On those allotments where this management is applied and when monitoring shows that the desired conditions are achieved and the riparian objective is met, adjustments in livestock numbers, access or the grazing season could be made. For analysis purposes it was assumed that this management action (the July 15 end-of-grazing-season constraint), when applied, would be in place for 20 years or more. This assumption was used as a basis to compute reduced AUMs resulting from a reduced season-of-use (with a constant herd size) and was used in calculating the economic impacts. Under this assumption the economic impacts projected in Alternative C are a "worst case" analysis. The actual adverse economic impacts of implementing this management action should be less severe than those projected because grazing systems would likely be implemented gradually over the next 20 years, and beyond, which would likely allow for livestock use beyond July 15 and the return of some AUMs (up to the current active preference level). Such increases could occur as long as the riparian and other resource objectives continue to be met.

In Alternative C, the season-of-use on those lands below 3,500 feet elevation on the Snake River Plains (about 200,000 acres) was changed to winter use. The methodology for determining the season-of-use, AUM levels and range improvement projects on lands above 3,500 feet elevation was generally based on whether or not the riparian objective could be met. In allotments where riparian areas were not present, the current AUM level and season-of-use was continued. In allotments where riparian areas were in unsatisfactory condition and it was projected that the riparian objective had a high probability of being met with implementation of grazing systems and supporting range projects, the current AUM level and season-of-use was continued and range projects were identified. In allotments where it was projected that the riparian objective was not likely to be met with implementation of grazing systems and supporting range projects, no range projects were identified and the July 15 end-of-grazing constraint was applied. On some allotments projects were identified to meet other resource objectives.

In Alternative B, the July 15 end-of-grazing constraint was not applied and the season-of-use on those lands below 3,500 feet elevation on the Snake River Plains (about 200,000 acres) remained the same as current use. A greater number and magnitude of range projects, particularly vegetation treatments, was identified. In allotments where it was projected that the riparian objective had a high probability of being met with implementation of grazing systems and supporting range projects, and where additional AUMs would become available from vegetation treatment projects, the additional AUMs were applied to suspended nonuse (up to total preference) for that allotment. Such increases could occur as long as the riparian and other resource objectives continue to be met.

In Alternative B, the actual adverse impacts on some biological resources as a result of livestock management could be somewhat less adverse than projected. This is because Alternative B prescribes development of allotment management plans, monitoring to evaluate environmental conditions and progress towards meeting objectives, and mitigation to reduce adverse impacts that may be identified. This management strategy of monitoring and mitigation also applies to impacts associated with other activities. Where monitoring identifies unacceptable adverse impacts, mitigation in the form of adjustments in management actions to reduce those impacts would be applied. Since specific mitigation measures to reduce potential impacts have not been identified in Alternative B, a more detailed analysis is not possible. Consequently, the analysis projected shows a somewhat higher level of adverse impacts on some biological resources than would actually occur.

Recreation Use

Recreation use has been projected to increase overall about 70% (74% for off-highway motorized vehicle use) between the years 1995 and 2015 (estimated from 1983-1990 SCORPs).

With the increase in recreation use, most off-highway motorized vehicle (OHMV) activity is projected to first expand southward along the Owyhee Front into the Jordan Creek GRA in the vicinity of Silver City with notable increases in OHMV use eventually reaching into the more remote areas of Juniper Mountain and other lands along the north side of the Owyhee Canyonlands.

Wild and Scenic Rivers

River segments determined to be eligible for a Congressional wild, scenic or recreational designation will be given protection until they are either released from further consideration upon plan approval by the BLM State Director for the unsuitable segments, or until Congress takes action regarding their status for the suitable segments. Management activities and authorized uses shall not be allowed to adversely affect either eligibility or classification (wild, scenic or recreational), subject to valid existing rights, until a final decision is made.

Wilderness Study Areas

All wilderness study area (WSA) lands will be managed in accordance with the BLM's Wilderness Interim Management Policy and Guidelines for Lands Under Wilderness Review (H-8550-1, 1987) (Wilderness IMP), to prevent impairment of wilderness suitability. Section 202 study lands will be managed for unnecessary and undue degradation under authority of Section 302 of FLPMA. This management of those areas under consideration for wilderness designation will continue until Congress takes action to either designate them as wilderness or to release them from further consideration.

Social and Economic Conditions

1. The current number of cow/calf pairs is the same as the 1987 Census of Agriculture estimates for Owyhee County (45,011).

2. Changes to actual AUM use will necessitate either an increase or decrease to the number of cow/calf pairs in the county.

3. Recreation use estimates are based on SCORP projections which are not dependant on BLM management actions. Each alternative has the same outcome.

4. Expenditures for range improvements (including improvements for any purpose) are in addition to current budgeted amounts and therefore, is considered an increase in Federal expenditures.

5. Livestock production costs and revenues remain constant over the life of the plan.

6. Revenues generated by cow/calf pairs is based on a study of ranching operations in Custer and Lemhi counties which indicated that gross revenues were $508 per cow/calf pair. Though it may not be exactly what those ranching operations in Owyhee county may receive, it is a good approximator for purposes of analysis without having the data readily available. See "A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties, Idaho: and Models," technical report in fulfillment of cooperative agreement No. D-040-A-2-0006, March 1994. In this same study the number of AUMs (animal unit months) it takes to equal one cow/calf pair was determined to be 13.1. In other words it takes either an increase or decrease of 13.1 AUMs before one cow/calf unit is added or deleted from the herd of a ranching operation. This ratio is being used as a surrogate for this analysis of Owyhee county ranching operations. See the cited study for a further explanation of the basis for these relationships.

Four Alternatives are Analyzed

Alternative A: This is the "Current Management" Alternative and the "No Action" Alternative under NEPA regulations. This alternative is based on implementation of the Owyhee Management Framework Plan (MFP) approved in 1981 and is a continuation of present management. This alternative also incorporates the livestock grazing program decisions that were made based on the Owyhee Grazing EIS in 1983 and on those lands within the Owyhee Resource Area addressed in the Bruneau-Kuna Grazing EIS in 1984. This alternative generally satisfies most commodity demands of the public lands while mitigating impacts to sensitive resources on a limited basis. It includes a moderate level of range improvement projects and vegetation treatments. Livestock use levels would continue at present levels subject to adjustments when monitoring studies indicate a changing resource condition or trend has occurred.

Alternative B: This alternative was developed through BLM staff interpretation and analysis of information submitted by the Owyhee County Commissioners with the assistance of the Owyhee County Land Use Planning Committee. This alternative emphasizes commodity development with limited protection of sensitive resources. It includes a moderate level of range improvement projects and a high level of vegetation treatments. Livestock grazing would be increased 11% from the current active preference.

Alternative C: This alternative, the agency preferred alternative, was developed by the BLM Lower Snake River District interdisciplinary planning team. It identifies management actions that would work toward achieving the identified resource objectives within twenty years. This alternative emphasizes improvement in ecological conditions and protection of most of the sensitive resources. It includes a low level of range improvement projects and vegetation treatments. Livestock grazing would be reduced 35% from the current active preference.

Alternative D: This alternative was developed through BLM staff interpretation and analysis of information submitted by the Desert Group, with membership representing the environmental and conservation oriented community. This alternative emphasizes improvement in ecological conditions and protection of sensitive resources with limited opportunities for commodity development. It includes no range improvement projects and a low level of vegetation treatments. Livestock grazing would be reduced 62% from the current active preference.

ALTERNATIVE A: ENVIRONMENTAL CONSEQUENCES

AIR RESOURCES

Change Agents

Prescribed burning, mining activities, national river designations, road construction, plow and seed operations and aerial pesticide/herbicide application.

Impact Analysis

A total of 121,600 acres are identified for possible prescribed burning over the next 20 years. Up to 9,000 acres per year would be treated. Individual burns would be limited to 3,000 acres. During these operations a one to two day localized decrease in air quality would occur. By limiting the size of the burn, allowing a time interval of 72 hours between burns, conducting burns when climatic factors are optimal for good dispersion, and coordinating with other air quality influencing actions in the area at the time of the burns (to reduce potential cumulative impacts), impacts from this action would not be substantial.

Mining operations have several sources of air pollutants. Sources of particulate (i.e., dust) emissions in mining operations include drilling, blasting, and ore collection in the mine pit, plus wind erosion from ore pits, ore loading into trucks, trucks moving over haul roads, and trucks dumping ore into piles, ore loading onto conveyors and ore crushing into small processing sizes, crushed ore screening and crushed ore smoothing, waste rock smoothing in waste piles and wind erosion from waste piles.

The active DeLamar Mine is currently the major source of these types of emissions in the resource area. Air quality impacts due to the Stone Cabin Mine are addressed in the Stone Cabin Mine EIS (BLM, 1994) and will not be addressed in this document. Cumulative impacts of the DeLamar and Stone Cabin mining operations would have a insubstantial impact on local air quality in the area. Impacts projected from small scale mining operations would not be substantial due to the limited size and nature of these operations, although if in the same vicinity of the DeLamar and Stone Cabin sites they would add to the cumulative impact.

Designation of 94 miles of the South and East Forks of the Owyhee River as a national river would result in eventual withdrawal of these reaches from mineral entry. This would preclude any impacts on air quality associated with mining or mineral exploration.

Impacts from road construction, plow and seed operations, and aerial application of pesticides/herbicides would result in minor short-term impacts on air quality dependent on size of the operations and adherence to best management practices during the operations.

Conclusion

The overall impact of Alternative A on air quality would not be substantial.

Meeting the Objectives

Objective AIRQ 1: Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration regulations with all authorized actions.

If proper procedures are followed and BMPs implemented the objective would be met in Alternative A.

SOIL RESOURCES

Change Agents

Livestock grazing, livestock water developments, OHMV activities, fluid mineral and locatable mineral activities, rights-of-way, national river designations and vegetation treatments.

Impact Analysis

In Alternative A, it is estimated that broad based erosion rates would increase slightly. These broad based increases in soil erosion would be in part due to the continuing increase in poor range condition, particularly where perennial range species give way to annual species. See "Affected Environment" - Soil section for effects of vegetative composition and density on soil erosion. The area most susceptible to erosion is the Snake River Sediments and to a lesser degree the granitic mountains. With current management the Snake River Sediments area would show the greatest erosional increases.

Projected livestock stocking levels and grazing management practices over a 20-year period would cause a slight increase on the broad based erosion level. As stated above, the Snake River Sediments would be affected by this use more severely than other areas. Current grazing practices would result in continued streambank stability problems, soil compaction, vegetative degradation, decrease in biodiversity and loss of soil productivity.

Development of 67 livestock water projects could result in degradation of the soil resource at and in the general vicinity of these sites. This degradation would be in the form of soil compaction, mechanical disturbance of the soil surface by hoof action, and loss of vegetative protective cover. The probability of this occurring is high. By selecting sites that are not in compaction prone soils some of these impacts would be mitigated.

Impacts on the soil resource in the form of soil erosion, loss of productivity, and soil compaction from OHMV activities would increase with the current ORV Management Plan. A continued "Open" designation on 420,493 acres would account for this impact, especially in the Owyhee Mountains, South Mountain and Juniper Mountain where OHMV activity is increasing. Impacts would continue to be substantial within the Owyhee Front SRMA and Fossil Creek OHMV management unit. OHMV use would cause mechanical disturbance to the soil surface and destruction of the protective vegetative cover (this includes vascular plants and soil stabilizing cryptogamic crusts). Mechanical disturbance from OHMV activities would result in destruction of soil aggregates, formation of channels, and a sloughing of washes. More heavily utilized trails would widen and become more deeply moguled and rutted as use levels increase. With the projected increase in casual and competitive OHMV activities, mitigating measures would be needed to protect the soil resource (especially on the highly erosive soils). Limitations on the available areas for OHMV recreation would be needed to protect lands from further degradation. There would also be better management (maintenance) of existing trails. Existing trails would be maintained on a yearly basis (i.e., water bars, contouring, reshaping) to prevent major precipitation events from causing irreparable damage. Monitoring of accelerated soil erosion (gullies or rills) would be done at specific locations to study impacts of recreational activities and aid in trail segment management decisions.

Fluid mineral and locatable mineral activities could cause substantial soil erosion (and subsequent sediment delivery and productivity losses) depending on the size and scope of the project. Access road construction, drill pad installation, mineral extraction actions, and other surface disturbing activities would be the primary causes. Impacts on the soil resource from these actions would be localized to the specific area of disturbance. The extent of these impacts would be determined by the amount of activity, advances in mining and mitigation techniques, type of operation, location, and other factors. Overall, impacts on soils attributed to mineral activities over the next 20 years is projected to increase. The Stone Cabin Mine project would cause both short-term and long-term localized erosion (see Stone Cabin Mine EIS.

Right-of-ways would cause varying degrees of disturbance. No substantial impact on soils is projected from construction of pipelines, powerlines and telephone lines after construction is finished. Roads, especially unsurfaced roads, would cause both short and long-term erosion problems.

Designation of 94 miles of national rivers would result in withdrawal of 29,520 acres of associated lands from mineral entry and avoidance of potential impacts associated with these activities as projected above in the minerals activities analysis. It would also result in strict limitations on vehicle travel and associated impacts as projected in the above OHMV activities analysis. This would result in a beneficial impact on the soil resource.

Vegetation treatments on an estimated 138,600 acres (prescribed burning, 108,200 acres; burn and seed, 13,400 acres; and woodland harvest, 17,000 acres) according to established standards and the Owyhee Juniper Woodland Management Plan is prescribed in Alternative A. Prescribed fire would be the treatment method most often used. Other treatment methods would include chemical and mechanical. The projected acreage for chemical and mechanical treatments is about 12,000 acres over the next 20 years. Vegetation treatment projects would cause varying degrees of disturbance. This would depend on the type and size of the treatment (and, over the long term, the success). By following established BMPs, impacts from these treatments would be reduced. Soil erosion and subsequent sediment delivery and loss of productivity would be a short-term impact. After revegetation occurs a long-term reduction in erosion rates could occur.

Conclusion

The overall impact of Alternative A on the soil resource would be slight with some areas having a moderate adverse impact. Broad based erosion levels would increase slightly (Snake River sediments area most affected). Streambanks would be degraded where current grazing practices continue.

Meeting the Objectives

Objective SOIL 1: Improve unsatisfactory and maintain satisfactory watershed condition on lands above 3,500 feet elevation.

It is estimated that this objective would be met on 40% to 60% of the resource area in Alternative A.

Objective SOIL 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

It is estimated that this objective would be met on less than 20% of the resource area in Alternative A.

Objective SOIL 3: Achieve stabilization of specific localized soil erosion problems (particularly streambanks and roads). Reduce the potential for accelerated (human induced) erosion problems by utilizing Best Management Practices (BMPs).

It is estimated that this objective would be met for 10% to 25% of the cases in the resource area.. Human induced erosion problems would be reduced only with the establishment of, and compliance with, BMPs in Alternative A.

WATER RESOURCES

Change Agents

Livestock grazing, mining activities, OHMV activities and prescribed burning.

Impact Analysis

Livestock grazing impacts on water quality would change very little from the current situation over the short term (5 years). Over the long-term (20 years), as riparian condition improves, 32% of all stream miles in the resource area would improve to satisfactory condition. Approximately 18% of this improvement would result from implementation of effective livestock grazing systems. Water quality would improve to fully support designated beneficial uses on these streams in Alternative A.

The major nonpoint source water quality impact from mining would be sedimentation. Most impacts would be from historic mines. Current mining activities would have plans to prevent nonpoint source pollution. Nonpoint source impacts from historic mining activities would continue, but would be slight. Impacts would primarily be located in the Jordan Creek drainage.

The major point source water quality impact from mining would be acid mine drainage. Major pollutants associated with acid mine drainage would be low pH and heavy metals. The majority of impacts would be from historic mines. Current mining activities would have plans to prevent point source pollution. Adverse impacts from historic mining activities would continue at the current rate. Impacts would primarily be located in the Jordan Creek drainage.

OHMV impacts on water quality would increase in Alternative A. The major nonpoint source water pollutant would be sediment. OHMV activities would reduce vegetative ground cover resulting in increased upland erosion. Over time, accelerated erosion would result in increased sediment transport to perennial streams. Impacts would be primarily located along the Owyhee Front, but would expand to the southern portion of the resource area over 20 years.

The primary water quality impact from prescribed burns would be increased sediment. Current riparian area condition is inadequate to buffer streams from increased upland runoff.

This is especially true of intermittent drainages where increased sediment transport to perennial streams would occur during periods of runoff. Sediment transport from burned areas would generally be a short-term impact. Soil stabilization would improve over time as vegetation reestablishes on the burn site. After five years, a burn site would have little impact on water quality. Prescribed burns would be conducted on a maximum of 9,000 acres annually, with a total of 121,600 acres burned over 20 years. This would be an increased rate compared with recent burning levels, resulting in an increased area of impact.

Water rights would be obtained on all water development projects and protests filed on all water right applications by private individuals which would conflict with Bureau water rights or the Bureau's mission. Minimum instream flow applications would be filed on high value streams.

Conclusion

The major impacts of implementing Alternative A would be those caused by hot season livestock grazing in riparian areas. Designated beneficial uses would be fully supported on 32% of all stream miles over a 20-year period.

Meeting the Objectives

Objective: WATR 1: Meet or exceed State of Idaho water quality standards on all Federally administered waters within the Owyhee Resource Area.

This objective would be met on 32% of all stream miles. Area wide, the most common pollutant is warm water temperature. Continuation of the current hot season grazing practices on the remaining streams would not allow the needed changes in riparian vegetation composition, vigor, density, and structure to shade the stream and lower water temperatures.

Objective: WATR 2: Follow current State water rights processes and procedures to acquire water rights for beneficial uses and support establishment of instream flows which are in the public interest. File for water use rights on all unclaimed waters within one year and newly developed water projects prior to construction.

In Alternative A, water uses on all streams would be provided for through compliance with State water law and in accordance with State licensing processes.

VEGETATION

Change Agents

Vegetation treatments, OHMV activities, mining activities, livestock water developments, fencing, livestock grazing and wild horse management.

Impact Analysis

When any species or class of vegetation is allowed to dominate a large area, ecological diversity, forage production, and plant vigor will be adversely impacted. At the same time if one species or class of vegetation is eliminated or substantially reduced over a large area similar impacts could be expected. Prescribed burning and juniper woodcuts are tools for treating vegetation to maintain the proper mix of habitat components, meet specific management objectives, or obtain desired plant communities within a given area. In Alternative A 65,900 acres of sagebrush/grass communities and 72,700 acres of juniper are identified for treatment.

Short-term impacts (2-3 years) from prescribed burns (121,600 acres) and juniper woodcuts (17,000 acres) would be adverse as vegetative structural diversity is decreased by reducing or eliminating the predominant species (sagebrush or juniper) at each site. Long-term effects would be beneficial by improving ecological diversity, ecological site condition, forage production, and plant vigor of these selected areas.

Beneficial impacts are projected for forestland biodiversity by retaining 32,600 acres of remnant Douglas-fir forests within the resource area.

Seeding 13,400 acres would adversely effect (short-term and long-term) the vegetative diversity of those areas where native species would be replaced with non-native species. Seedings would convert mid seral status range sites to treated sites. Depending on the initial success of the seeding, degree of livestock grazing, effectiveness of the initial control of woody species, and amount of maintenance performed over time, the life span of a seeding could exceed 30 years. Because some sagebrush eventually reinvades most treated sites, maintenance of these seedings could be necessary every 10-20 years to control brush and extend the life of those seedings.

Seedings could have a beneficial impact on an area if they are used to stabilize soils or to reestablish native species not projected to become established naturally. However, overall impacts on vegetation are projected to be adverse.

The Federal Noxious Weed Act (PL 93-629) defines a noxious weed as a weed that causes disease or has other adverse effects on man or his environment and therefore, is detrimental to the agriculture and commerce of the United States and to the public health. Noxious weed control would have a slight beneficial effect on vegetative diversity throughout the resource area by maintaining the integrity of existing native plant communities by reducing or eliminating undesirable species. Beneficial impacts, through noxious weed control, are also projected in those areas where OHV use occurs. OHV activity has the potential to remove vegetation which then allows noxious weeds to become established at those sites.

Maintaining existing OHMV trails at current levels of use would have limited additional impacts on vegetation. However, due to the widening of existing trails, the formation of moguls, and the conversion of motorcycle/ATV trails to jeep trails, unauthorized trails are becoming established. Unauthorized OHMV use is adversely impacting vegetation through damage to the foliage, root systems, and seedlings, and the uprooting of small plant cover and disruption of root systems of larger plants by sheer stress induced in the soil (Wilshire, Shipley and Nakata 1978). This disturbance then causes a loss of native vegetation, increases soil erosion, and allows for invasion by noxious weeds. Although most disturbance would be linear, with limited acreage being affected, concentrated use areas would also adversely impact vegetation around OHV trailheads (developed and undeveloped) in the Snake River geographic reference area. As the population in southwestern Idaho continues to increase, it is projected that existing trails would deteriorate from increased use, causing more unauthorized trails to become established. It is also projected that OHMV activity would move south in the Owyhee Mountain Range, particularly around the Silver City area, causing new trails to form, leading to loss of vegetation.

Mineral activities have the potential for adverse impacts on vegetation on a site-specific basis. Impacts would be in the form of short-term and long-term habitat loss at exploration and mining locations. Refer to the Stone Cabin Mine EIS for a detailed analysis of mining impacts.

Development of 67 livestock water sources would have site specific adverse impacts (short-term and long-term) on vegetation through increased grazing pressure and livestock concentration near available water. Developing springs and pipelines could also result in reduced water availability at spring sources or streams resulting in degraded riparian/wetland habitat. These adverse impacts could be partially offset by reduced grazing on vegetation in other portions of the allotment.

Construction of 137 miles of riparian/wetland exclosure fences would have beneficial impacts within these areas. By excluding livestock, these exclosure fences would allow for improvement within these riparian/wetland areas.

Construction of 79 miles of pasture division fences would have a beneficial impact on vegetation by allowing grazing systems to be implemented that could provide rest or deferment within an allotment. Additional pastures should then provide improved livestock distribution and utilization levels within these areas.

Adverse impacts are projected from these fences due to livestock trails that normally become established along fence lines and the potential for construction and maintenance roads along these fences. These roads then have the potential to become areas for OHMV activity. Overall, impacts from these fences are projected to be beneficial.

Based on current estimates of ecological status, the continuation of current livestock grazing practices, systems, seasons-of-use, and stocking levels would continue to adversely impact vegetation. Grazing prior to July 15 has the potential to adversely impact native upland vegetation, especially in those areas in an early seral stage or located below 3,500 feet elevation, as livestock use would occur during the plant's active growth and food storage phase. Although most plants are sensitive to grazing during this time period, studies have shown that bluebunch wheatgrass is extremely sensitive to grazing during active growth (Anderson, 1991). This early use has the potential to prevent substantial improvement on those range sites where bluebunch is the predominant grass species. These sites cover over 50% of the resource area. Studies have also shown that livestock grazing after July 15 can adversely impact riparian/wetland areas as livestock tend to congregate in riparian areas during the hot summer months. This late use has the potential for overuse of riparian vegetation such as willows and sedges. By removing sedges during this time period the potential for streambank erosion during spring runoff is increased. Overgrazing willows also has the potential to eliminate entire stands.

Based on this, long-term beneficial impacts on vegetation can only be projected if adjustments in season-of-use, livestock numbers, and grazing practices occur, along with implementing grazing systems that would allow for improvement in upland and riparian vegetation. These adjustments would occur after completion of allotment specific activity plans. However, based on current workloads and other work priorities, it is projected that very few activity plans would be developed and implemented in the next 20 years. Overall long-term impacts from current livestock grazing practices are projected to be adverse unless allotment specific activity planning can be completed.

Impacts on vegetation are projected to be adverse within wild horse herd management areas (HMA's) as wild horses would continue to graze these areas year-long with no provision for rest or deferment (see previous section regarding vegetation response to early and late use grazing seasons). Horses and livestock would also continue to compete for available forage within individual grazing allotments. Because fences and water developments have the potential to restrict wild horse movement or move livestock into historic wild horse use areas, these types of projects may not be allowed within wild horse HMA's. Long-term impacts on vegetation are then projected to be adverse based on the difficulty in constructing projects within those allotments where grazing systems are being implemented.

Conclusion

Beneficial impacts are projected in Alternative A through vegetation treatments, noxious weed control, and improved livestock management as a result of allotment specific activity planning.

Changes in ecological condition, especially on those sites currently in an early seral stage, are not projected to significantly change within 20 years. Factors such as climate, soils, competition from other species, available sources of seed on site, livestock season-of-use, and livestock stocking levels would determine the amount of time needed to move from one seral stage to the next. Studies have shown that even with complete livestock removal, succession can be extremely slow, sometimes requiring 20-40 years (Sanders and Voth 1983 and Tisdale, Hironaka, and Fosberg 1969). In Alternative A, grazing preference would remain at the current level of 136,285 AUMs for the next 20 years.

Meeting the Objectives

Objective VEGE 1: Achieve an ecological site condition (ESC) on upland habitats on Federal lands within the Jordan Creek and Owyhee River geographic reference areas and those portions of the Snake River geographic reference area above 3,500 feet elevation of at least 40% in late seral and no more than 10% in early seral stage. (Altered ecological sites such as seedings and annual range excepted.)

This objective would not be met in Alternative A. The table below outlines the projected changes in ecological status for this alternative. These projected changes were based on the prescribed burns, woodcuts, and seedings that were proposed under this alternative.

Area above 3,500 feet elevation

Seral Stage	Baseline	Percent	20-Year Projection	Percent
Early seral	419,771	38%	411,271	37%
Mid seral	528,729	47%	482,509	44%
Late seral	143,584	13%	192,274	17%
PNC	2,224	<1%	2,224	<1%
Seeding	18,401	2%	24,431	2%
Total	1,112,709	100%	1,112,709	100%

See Table VEGE-2 for baseline data by allotment.

Objective VEGE 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

With continued spring grazing on the Snake River area a downward trend is projected. Based on this the objective would not be met . The table below outlines the projected changes in ecological status for Alternative A.

Area below 3,500 feet elevation

Seral Stage	Baseline	Percent	20-Year Projection	Percent
Early seral	155,2157	7%	157,048	78%
Mid seral	36,664	18%	34,831	17%
Late seral	0	0%	0	0%
PNC	0	0%	0	0%
Seeding	9,387	5%	9,387	5%
Total	201,266	100%	201,266	100%

Objective FORS 1: Manage Douglas-fir communities (about 36,200 acres) to emphasize forest health, vegetative diversity, wildlife and watershed values.

Alternative A generally would meet the objective to retain forest land biodiversity, but would not give clear direction as to the ecological values of some dead material remaining within the forest environment.

Objective FORS 2: Use juniper harvesting to help achieve a desired plant community.

Alternative A would not meet the objective of achieving desired plant communities in the resource area by controlling juniper as only 17,000 acres have been identified for woodland harvest within 20 years. This is about 7% of the total acres of juniper located on Federal lands. In order to meet this objective a more aggressive program would be needed to reduce both existing and projected increased juniper woodland acreage. There would not be enough public demand for juniper fuelwood in the foreseeable future to increase the current rate of commercial harvest operations.

RIPARIAN-WETLAND AREAS

Change Agents

Livestock grazing, mining activities, OHMV activities, livestock water developments and land tenure adjustments.

Livestock grazing impacts on riparian areas would change very little from the current situation over the short term. Past and current grazing practices have allowed for too much use during the hot season (July-September). The rate and direction of change in riparian condition is largely dependent on the amount of vegetative regrowth occurring after the grazing season ends and the amount of physical damage (e.g., bank trampling and shearing) which occurs (BLM 1989). Myers (1989) suggests that a minimum of 30-35 days was required for adequate vegetative regrowth to occur after suspending livestock use and before the dormant season. Clary and Webster (1989) recommend leaving a minimum 6 inch herbaceous riparian stubble height at end of the growing season or grazing season, whichever is later, on streams providing sensitive species habitat. Myers (1989) also found a lack of riparian area improvement when cattle were allowed to graze more than a total of 28 days or 12 days during the hot season (July 1 - September 15) on streams similar to those found in the resource area. A Bureau technical reference (BLM 1989) on riparian grazing management reports that use of willows during the summer months is destructive to willow growth and regeneration. Lower Snake River District inventory information indicates moderate to heavy use of willows by livestock occurs around mid-July. Myers found cattle heavily use willows when use of herbaceous plants exceeds 60%. Platts found no impacts from livestock grazing when utilization is kept under 25%. Current livestock grazing practices allow for utilization of riparian vegetation by livestock to exceed these recommended limits.

Over the long-term (20 years), grazing systems would be designed and implemented to improve riparian condition. An estimated 32% (211 miles) of riparian miles would be in satisfactory and/or proper functioning condition at the end of 20 years.

Most riparian impacts from mining activities would be from historic mines. Impacts would primarily be caused by loss of topsoil. Current mining activities would have plans to prevent undue riparian degradation. Impacts would primarily be located in the Jordan Creek drainage.

Adverse impacts on riparian areas from OHMV activities, primarily increased use levels, would increase in Alternative A. Most impacts from OHMV use would result in increased erosion both in the uplands and along stream courses as vegetative cover and streambank stability are decreased. This would occur primarily in intermittent drainages located along the Owyhee Front but would probably expand to southern areas over the next 20 years.

Livestock water developments could have both adverse and beneficial effects on riparian values. Benefits would occur when existing riparian portions of a development are fenced to exclude livestock. Developments that attract livestock to an off-channel site would also result in improved riparian condition.

Adequate flow to maintain riparian areas is a concern in most streams and springs in the resource area. Adverse impacts would almost always occur when water is piped away from the source resulting in reduced flow rates or dewatering.

Reservoirs could have a adverse impact by retaining water which would otherwise result in over-bank flows downstream. Periodic flooding of streambanks is important in building and maintaining riparian areas. Benefits from reservoirs would result if late summer streamflows are augmented with previously stored water.

Land tenure adjustments to consolidate public lands would generally benefit riparian values. Newly acquired land would usually be managed with special land use restrictions which benefit riparian areas.

Conclusion

The major impacts of implementing Alternative A would be those caused by hot season livestock grazing in riparian areas. Riparian area condition would improve a small amount over a 20-year period. The impact of livestock grazing on riparian condition is shown below.

Riparian Areas (miles)	Baseline	Alternative A
Satisfactory condition	35	211*
Unsatisfactory condition	239	441
Undetermined	378	0

*Inventories completed to date indicate that about 13% of stream miles are in satisfactory riparian condition. As more miles are inventoried, the ratio of satisfactory to unsatisfactory is projected to remain constant. An estimated 84 riparian miles (13%) are currently in satisfactory condition. An additional 127 miles would improve due to livestock grazing management, changes in grazing patterns, and better protection of nongrazing areas.

Meeting the Objectives

Objective: RIPN 1: Improve all unsatisfactory, nonfunctioning and functional-at risk categories and maintain all satisfactory and proper functioning condition riparian lands (stream, upland wet meadow, and wetlands).

This objective would be met on 32% of all riparian miles in Alternative A. Continuation of current livestock grazing practices would result in degradation of the majority of riparian areas. Current riparian condition is inadequate to buffer most streams from increased upland runoff being generated from OHMV, mining, and other surface disturbing activities.

WILDLIFE HABITAT

Change Agents

Livestock grazing, livestock water developments, fencing, vegetation treatments, mining activities, OHMV activities, recreation use, national river designations, wildlife water developments, wildlife habitat exclosures, waterfowl nesting structures, land tenure adjustments and land use authorizations.

Impact Analysis

Although various levels of livestock grazing have been shown to benefit some wildlife species including mule deer, some ground foraging and insectivorous birds, some types of lizards and insects and others; research has shown that grazing is generally detrimental to the large majority of species and habitats. As summarized by Fleischer (1993), deleterious effects of grazing have been observed in all vertebrate classes and a wide variety of western ecosystems. These effects include loss of biodiversity; lowering of population densities; disruption of ecosystem function including nutrient cycling and succession, change in community organization and change in physical characteristics of both terrestrial and aquatic habitats. Another recent review of the available literature revealed that within riparian woodlands 8 of 43 species of neotropical migrants (birds) responded positively to grazing while 17 species were negatively affected and 18 were unresponsive and within shrub steppe habitats while only 3 of 23 species probably have been positively affected 13 have probably been negatively affected and at least 7 have demonstrated mixed responses to grazing (Bock et al. 1993). Studies in California and Nevada by Page et al. (1978) and in Southeastern Oregon by Taylor (1986) demonstrated that species richness was significantly lower on grazed sites vs. ungrazed habitats. Duff (1970) demonstrated a 350% increase in wildlife use and diversity after resting a riparian habitat in Utah for eight years. Busack and Bury (1974) found in the Mojave Desert that lizard abundance was two times and biomass was nearly four times higher on ungrazed sites.

Although some habitat improvement is expected, livestock grazing as prescribed under this alternative, is projected to contribute substantially to maintaining mostly unsatisfactory conditions for many species. The combination of livestock grazing practices and drought have resulted in an observed decline in production and vigor of vegetation throughout the resource area, especially at lower elevations, and would result in a further decline in habitat conditions for most wildlife species, if prolonged. A continuation of mostly mild winters and increasing big game populations could also contribute to this problem. As in the past, livestock grazing would have the greatest adverse impact within riparian habitats because of their crucial importance to a large number and diversity of wildlife and because this is where livestock use is generally heaviest and most concentrated.

Development of 67 livestock water projects (45 springs, 19 reservoirs and 3 pipeline troughs) is projected to result in deteriorated habitat conditions for most wildlife species within the vicinity of these developments. Development of springs and pipelines could also result in reduced water availability at spring sources or streams resulting in degraded riparian/wetland species habitat. Adverse impacts could be offset to some degree by reduced livestock pressure on habitats in other portions of the grazing allotment and possibly by allowing for a wildlife species to expand its range into a previously unusable habitat. Reservoir development could result in additional habitat for waterfowl, amphibians and a diversity of other wildlife. Habitat benefits could be greatly enhanced if all or a portion of the reservoir is fenced to exclude livestock or islands are developed, although this is typically not done. The overall impact of livestock water development to most wildlife species and in most areas, based on current management, is projected to be adverse.

Construction of 79 miles of pasture fence according to standard Lower Snake River District wildlife specification would probably not have a significant impact on wildlife movements within higher elevation deer, elk and pronghorn summer range and could, in some cases, benefit overall habitat conditions by providing for better livestock management. Fencing could, however, adversely impact big game within lower elevation winter ranges by restricting movements during years of heavy snow accumulation. Fencing would also result in degraded habitat for most species within a narrow corridor along both sides of fences where cattle trailing is most concentrated. The overall long-term impacts of fence construction is projected to be slightly beneficial as a result of improved livestock management.

Treatments (cutting and burning) to eliminate 50,420 acres of western juniper (about 20% of existing juniper woodlands) according to established Owyhee Juniper Woodland Management Plan standards is projected to have a mostly beneficial long-term impact on many wildlife species, especially big game, by increasing forage production and vigor and improving habitat diversity where dense juniper is limiting understory vegetation. Very little information is available concerning the impacts of Western juniper treatments on nongame wildlife although surveys currently being conducted within the Owyhee and Bruneau Resource Areas are designed to determine breeding bird diversities and densities within treated (both woodcuts and burns) and untreated stands. Preliminary results from these surveys have shown that bird species diversity and numbers are greatest in untreated juniper stands followed by prescribed burns and woodcuts, although, surveys have not yet been conducted in stands with little or no understory vegetation. Woodcut treatments have the advantage of allowing for strict control of size, shape and location of the treatment area and permitting understory vegetation, especially shrubs, to be left relatively undisturbed. This allows for retention of large, interconnected blocks of juniper outside the treatment area while, in many cases, increasing forage and shrub cover within the treatment area. Large interconnected blocks of habitat are important as travel, migration, and recolonization corridors and as habitat for forest-interior species and species with large home range requirements (Noss 1991). Woodcuts have the disadvantage of not usually containing standing dead trees(snags) which could account for at least some of the observed lower bird species diversity and densities. Burning juniper would result in reduced shrub and tree densities within the treatment area for many years but could help establish or improve habitat for pronghorn and other species adapted to more open habitats. Shrub and tree density would gradually increase over time unless treatment areas are periodically reburned to control reinvasion of juniper and shrubs. Wildlife species diversity can initially be projected to decline along with the loss of trees and shrubs.

Treatment of 39,540 acres of sagebrush habitat (less than 7% of existing sagebrush habitat) could also have short-term and, possibly, long-term adverse impacts on overall wildlife species diversity within the treatment area as vegetative structural diversity is decreased. However, as with juniper treatment, this would depend upon the size and shape of the burns, preburn shrub cover and frequency of reburns to control shrub reestablishment. Overall impacts on sage grouse and other sagebrush dependant species should be minimal or beneficial if existing treatment standards are strictly applied. The values and impacts of vegetation treatments on wildlife would also be highly dependant upon long-term grazing management practices. These areas are very attractive to livestock and wildlife and, without close monitoring and proper management, could easily suffer from overuse.

Continuing mineral exploration and development and materials sales is projected to have an increasingly detrimental impact on many wildlife species and habitats as more areas are disturbed over the next 20 years. The extent of habitat impacts would be determined by the amount of activity, advances in mining and mitigation techniques, location and other factors. Impacts would be in the form of short-term and, usually, long-term habitat loss at exploration, mining and material removal sites, increased public access associated with exploration, assessment and mining roads and ways and indirect disturbance to wildlife within the vicinity of mines and exploration operations. See Map LOCM-2 for locatable mineral potential.

A projected 37% increase in OHMV activity by the year 2000 would likely result in substantial adverse impacts on many wildlife species and habitats under the current ORV Management Plan. Most activity and impacts are projected to occur within the Snake River GRA which contains the Owyhee Front SRMA and Fossil Creek OHV Management Unit. Continuation of the "Limited" designation in these areas could result in a steady increase in the number of acres of wildlife habitat lost or degraded by concentrated OHMV use if new areas are disturbed. Funding and personnel levels are currently well below that needed to adequately patrol and enforce OHMV regulations at current use levels. As use levels increase, our ability to regulate this use would continue to decline, leading to increasing levels of habitat degradation. The areas of greatest potential impact would be within a three mile radius of the three major trailheads where OHMV activity is most concentrated. It is projected that 50% of the casual OHMV activity would occur within this 18,000 acre area.

Depending upon selected course routes, organized racing events can impact species and habitats more severely than casual, weekend type OHMV activity. Factors contributing to these impacts are as follows: 1) races concentrate large numbers of OHMVs and spectators resulting in much higher noise levels and increased levels of habitat disturbance, 2) they often include areas which would normally receive only light use, 3) they often concentrate use by employing multiple passes (loops) through the same areas and 4) they can result in additional long-term casual use by race participants and spectators.

The Kane Springs area at the upper end of the West Rabbit Creek drainage (Rabbit Creek OHV Trailhead area) provides crucial winter habitat for an estimated 75 pronghorn. Other, less concentrated winter habitat occurs primarily south of highway 78 between Reynolds Creek and Castle Creek, below about 4,000 feet elevation. Wintering pronghorn normally inhabit these areas from November through March depending upon the severity of winter weather. Winter is a stressful period for pronghorn and disturbance from concentrated OHMV or other human activity would result in additional energy expenditures possibly resulting in increased winter mortality from malnutrition (Salwasser, 1980). Unnecessary winter energy expenditures could also lead to reduced fawn production. Disturbance of fawning habitats is also a concern within the assessment area. Although most specific fawning habitat has not been identified it generally occurs at elevations above 3,500 feet primarily within grassland and low sage vegetation types. Concentrated OHMV activity in these areas could result in reduced fawn survival and abandonment of otherwise suitable habitat.

Most winter mule deer habitat is located within a narrow band along the lower foothills of the entire Owyhee front and along the Snake River and all other major drainages. This area supports a large but mostly disperse population of deer from November through March. Impacts from OHMV races and associated casual use during this period would be similar to those projected for pronghorn.

An area of concentrated sage grouse leks (display grounds) and associated nesting habitat occurs south of highway 78 between Fossil Creek and Castle Creek. Breeding and nesting activity takes place from late February through May. OHMV races and associated casual use could result in substantial loss of production either from direct nest destruction or nest abandonment during egg-laying (Call, 1974). Frequent prolonged disturbance of a lek could conceivably result in abandonment of the lek and displacement of all nesting associated with that lek.

Chukar are found within and adjacent to steep canyon habitats throughout the Owyhee front. They frequent riparian and wash habitats adjacent to suitable escape cover when water is available and are probably most vulnerable to disturbance in these areas. Frequent disturbance by OHMVs could cause chukar to avoid or abandon these key use areas and result in reduced numbers and distribution.

The Snake River GRA contains nesting, wintering or yearlong habitat for a large diversity of raptors with highest concentrations occurring within the Snake River Birds of Prey National Conservation Area (SRBOPNCA). Several studies have identified impacts on raptors including nest abandonment resulting directly from noise generated by OHMVs and by other activities associated with OHMV use such as camping and shooting (Harmata et al. 1978). Other impacts include direct death loss from shooting (Ellis et al. 1969), reduced prey base and disruption of foraging activities resulting in possible nest failure or fewer young fledged.

Amphibians, reptiles, birds and small mammals have all been shown to suffer serious impacts from OHMV activity. Studies conducted in the desert southwest have demonstrated severe effects of OHMVs on wildlife of arid regions through direct mortality, harassment, noise and habitat destruction (Webb and Wilshire 1983). Most studies to date have been conducted in southern California desert scrub, dune, wash and riparian habitats. Use levels in these study areas were higher than current or forecasted levels within the resource area but are still useful in projecting the types of impacts that could occur in these and other arid and semi-arid habitats. One study by Luckenback and Bury (1983) in the Algones Dunes found that for lizards there were 1.8 times the number of species, 3.5 times the number of individuals and 5.9 times the biomass on control plots than were found in OHMV-impacted areas; for mammals there were 1.5 times the number of species, 5.1 times the number of individuals and 2.2 times the biomass in control plots than in OHMV areas; and for arthropods, tracks were 24 times more abundant in control plots than in impacted areas. Other studies have shown OHMVs linked to declines of amphibians such as the Couch's spadefoot toad (Bondello and Brattstrom 1979). Luckenbach (1978) found a 50% reduction in the number of breeding bird species and a 24% reduction in the number of breeding bird pairs within a moderate OHMV use area from those found in slightly used control plots in creosote shrub habitats. Another study in creosote shrub habitat found an average of 1.63 more species of reptiles and 1.25 more species of small mammals and 1.8 more vertebrates on control sites than on OHMV-used plots (Bury et al. 1977). A study for the BLM in Afton Canyon, California demonstrated that a riparian area open to OHMV use supported significantly fewer species and lower numbers of birds than a similar nearby area which was closed to all vehicles (Weinstein 1978). A study of the impacts of OHMVs on bird density and diversity in desert wash habitats revealed that the breeding bird density was 23 times that of OHMV-used plots and there was a 90% reduction in the number of breeding bird species. A number of other studies have demonstrated decreases in density and diversity of desert birds and mammals (Busack and Bury 1974, Luckenbach 1978 and others).

Continued "Open" designation on 420,493 acres within the remainder of the resource area could also result in increased habitat degradation and wildlife disturbance. The intensity of use is projected to be much lower throughout most of this area than in the Snake River GRA, however, seasonal heavy use would occur primarily within popular hunting areas such as the Owyhee Mountains, South Mountain and Juniper Mountain. OHMV use during hunting seasons has increased in recent years and would likely continue to increase. With no restriction on where OHMV use could occur, the potential for habitat destruction and wildlife harassment and disturbance would increase. Each new set of tracks established by cross-country OHMV travel could become a permanent trail, leading to an ever-expanding network of disturbance.

Implementation of the Back Country Byways program, development and implementation of management plans for nine Special Recreation Management Areas, upgrading or development of recreational facilities at seven recreation sites and construction of foot and equestrian trail systems would likely result in increased public use at, and in the general vicinity of, each of these sites. This is projected to result in increased physical habitat deterioration and disturbance and displacement of many wildlife species within the areas of increased use, although, by concentrating use in these areas unregulated use elsewhere could decline. Boyle and Sampson (1985) documented a wide variety of adverse impacts on all major wildlife taxa and relatively few beneficial impacts for most nonconsumptive recreational activities. Special restrictions on vehicle access and commercial recreation permitting within SRMAs would limit adverse impacts associated with these activities, however, overall cumulative short-term and long-term impacts of these actions is projected to be slightly adverse because of the projected additional visitor use generated by each of these. Impacts would continue to increase each year as visitor use increases.

The increasing number of organized equestrian events and commercial guiding and outfitting services would also result in increasing impacts on wildlife and wildlife habitats. As with OHMV activities, equestrian events would result in concentrated use and associated habitat damage and wildlife disturbance. Guiding and outfitting activities, while resulting in little physical habitat damage, could also result in localized disturbance and displacement of wildlife, especially near campsites. They could also contribute to additional recreational use from clients returning to the area on their own. Short-term and long-term impacts are projected to be adverse and impacts would likely increase over the next 20 years.

Designation of 94 miles of the South and East Forks of the Owyhee River as wild, scenic or recreational river would result in withdrawal of these reaches from minerals exploration and mining, closure to mineral materials sales and fluid minerals leases and avoidance of potential impacts associated with each of these activities. It would also result in strict limitations on vehicle access and travel and commercial recreation permitting, thereby limiting impacts typically associated with these actions. Overall short-term and long-term impacts on wildlife are projected to be beneficial.

Construction of wildlife water developments would result in extended wildlife use of habitat that is otherwise suitable but seasonally unavailable due to a lack of dependable water. Primary benefits would be to big game and upland game species but most other species would benefit to some degree. Habitat exclosures which would continue to be constructed primarily to protect and enhance relatively small areas of riparian/wetland habitats would benefit a large diversity of wildlife species but improve only a small percentage of all riparian habitat within the resource area within 20 years. Construction of riparian pasture fences would result in similar benefits. Development of waterfowl nesting islands, platforms and boxes would provide additional nesting opportunities for a diversity of waterfowl and shorebirds at larger reservoirs and along rivers and streams where nesting habitat is limited. Short-term and long-term impacts of these actions would be beneficial.

Land tenure adjustments to consolidate public lands through State or private exchange could result in either a net beneficial or adverse impact on wildlife depending upon which parcels are involved. Even though exchanges must result in the acquisition of higher value lands not every resource value must be higher. Land acquisitions via direct or indirect purchase are most often done in order to acquire high quality wildlife and recreation lands and are normally managed with special land use restrictions and would, therefore, normally benefit wildlife.

Land use authorizations (rights-of-ways, leases and permits) would continue to have a mostly adverse impact on wildlife as habitat is dedicated to other uses. Most land use authorizations result in long-term alteration or destruction of habitat for a variety of wildlife species. Although most affect a relatively small area the cumulative impact over 20 years could be significant. Short-term and most long-term impacts would be adverse.

Conclusion

The overall short-term and long-term impact of Alternative A on wildlife resources is projected to be adverse based upon continuation of current livestock grazing levels and practices, construction of additional livestock management facilities, continued loss of habitat from minerals related activities, increasing levels of OHMV and other recreational activities and new land use authorizations. These adverse impacts would be moderated to some degree by beneficial impacts associated with some vegetation treatments, 94 miles of wild, scenic and recreational river designations, continuing development of riparian exclosures and pastures and development of wildlife waters and waterfowl nesting structures.

Meeting The Objectives

Objective WDLF 1: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of big game species within the Owyhee Resource Area including 1,246,000 acres of mule deer habitat, 50,000 + acres of elk habitat and 819,000 acres of pronghorn habitat.

Assuming near normal climatic conditions over the next 20 years, Alternative A would meet this objective for all big game species in terms of maintaining adequate habitat to sustain current population levels and providing for modest increases in some populations. Vegetation treatments would likely have the greatest beneficial impact on all three big game species if they are designed, implemented and managed properly. Additional benefits would accrue from wildlife water developments, construction of habitat exclosures and riparian pastures and some land tenure adjustments. The beneficial impacts of these actions should offset adverse impacts associated with livestock management projects, increased OHMV and mineral activity, some realty actions and localized overgrazing of key habitats.

Objective WDLF 2: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of upland game including 904,000 acres of sage grouse habitat, 547,000 acres of chukar habitat and 29,000 acres of pheasant habitat.

This objective would not be met in Alternative A. Some habitat improvement would result from cooperative farming agreements, some vegetation treatments, habitat exclosures, riparian pastures, wildlife water developments and some land tenure adjustments. Habitat would continue to be degraded or maintained in less-than-desirable condition from concentrated livestock use of critical riparian/wetland habitats and, to a lesser degree, from development of livestock water developments, some vegetation treatments, continued minerals exploration and development, increasing OHMV and other recreational activities, some land tenure adjustments and other realty actions.

Objective WDLF 3: Maintain satisfactory and improve unsatisfactory riparian/wetland habitat for waterfowl, furbearers and a diversity of other game and nongame species.

This objective would not be met under Alternative A. Only an additional 19% or 127 miles of riparian habitat is projected to improve from unsatisfactory to satisfactory condition within the next 20 years. This would result in a total of 32% or 211 miles in satisfactory condition leaving 68% or 411 miles in unsatisfactory condition. Improvement, where achieved, would come primarily through development of exclosures and riparian pastures and implementation of some grazing systems. Most adverse impacts would continue to be by excessive mid-and-late-season grazing, although, mineral exploration and development, increasing levels of OHMV and other recreational activity would continue to adversely impact some riparian habitat. Wildlife diversity and density within these degraded habitats would remain far below potential.

Objective WDLF 4: Maintain satisfactory and improve unsatisfactory habitat for a large diversity of nongame wildlife on 1.3 million acres.

Because of the large diversity of nongame species and habitats found within the resource area, the lack of inventory and monitoring information for the majority of species and the reality that for any action some species may benefit while others would suffer, it is difficult to accurately project the overall impact of Alternative A on nongame species in general. However, based on the large number of species adversely impacted by continued livestock degradation of most riparian/wetland habitats, increasing OHMV and other recreational activity, increased development of livestock management projects, continued minerals exploration and development and some realty actions it is anticipated that this objective would not be met for the majority of nongame species. Development of riparian exclosures and pastures, wildlife water development, some vegetation treatments and some land tenure adjustments would provide habitat benefits but would not compensate for habitat lost, degraded or maintained in less-than-desirable condition.

FISHERY HABITAT

Change Agents

Livestock grazing, mining activities, OHMV activities and prescribed burning.

Impact Analysis

Livestock grazing impacts would not significantly change from the current situation over the short term (5 years). An estimated 33 miles (6%) of fish habitat would improve through a combination of grazing system implementation, changes in grazing patterns and protection of ungrazed areas. Stream channels accessible by livestock generally provide unsuitable fish habitat. Continued livestock use at current levels would prevent habitat improvement. Streams channels which currently provide suitable fish habitat are generally inaccessible to livestock and would not undergo accelerated deterioration.

Over the long-term (20 years), as riparian condition improves, an estimated 32% (161 miles) of all stream miles would be in satisfactory fish habitat condition. Improvement would result from implementation of riparian grazing systems on about 18% (92 miles) of the total stream miles. Improved riparian condition would result in the reduction of water temperatures, fine sediment deposition, and concentration of other pollutants.

On the remainder of the stream miles, a change to warm water tolerant communities (suckers, dace, shiners) would occur on most streams. Removal of riparian vegetation and continued streambank trampling and erosion would result in increased stream channel width and decreased depth. As this deterioration progresses, water temperatures would increase. Cold water species would be replaced by species which thrive in warmer temperatures. Biodiversity would decline as more diverse, pollution intolerant communities are replaced by less diverse, pollution tolerant communities.

The major nonpoint source impact on fish communities and biodiversity from mining activities would be sedimentation. Increased sedimentation would reduce or eliminate spawning areas and reduce species biodiversity. Most nonpoint source impacts would be from historic mines. Current mining activities would have plans to prevent nonpoint source pollution. Impacts from historic mining activities would continue at the current level. Impacts would primarily be located in the Jordan Creek drainage.

The major point source impact on fish communities and biodiversity from mining would be acid mine drainage. Major pollutants associated with acid mine drainage are low pH and heavy metals. These pollutants would prevent the seasonal use of spawning areas and cooler water seeps during low water periods which would eliminate habitat and reduce biodiversity. Pollution intolerant communities would be replaced by pollution tolerant communities. The majority of point source impacts would be from historic mines. Current mining activities would have plans to prevent point source pollution. Impacts from historic mining activities would continue at the current rate. Impacts would be primarily located in the Jordan Creek drainage.

Adverse OHMV impacts on fish communities and aquatic biodiversity would increase in Alternative A. Impacts from OHMV activities would be due to a loss of ground cover which would lead to increased upland erosion and fine sediment deposition in streams. Increases in fine sediment deposition would reduce suitable aquatic species habitat which would cause a decrease in biodiversity. Impacts would primarily be located along the Owyhee Front but would probably expand to southern areas of the resource area over the next 20 years.

The primary impact on aquatic communities from prescribed burns would be increased sediment. Sedimentation would increase initially as current riparian area condition is inadequate to buffer streams from increased upland runoff. This is especially true of intermittent drainages where increased sediment transport to perennial streams would occur during periods of runoff. Sediment transport from burned areas would generally be a short-term impact. Soil stabilization would improve over time as vegetation reestablishes on the burn site. After five years, a burn site would have little impact on aquatic communities. Prescribed burns would be conducted on a maximum of 9,000 acres annually, with a total of 121,600 acres burned over 20 years. This would be an increased rate compared with recent burning levels, resulting in an increased area of impact.

Conclusion

The most significant impact of implementing Alternative A on aquatic communities and biodiversity would be from livestock grazing during the hot season. Over a 20-year period, a shift from cold water to warm water tolerant communities would occur on most area stream miles. The impact of livestock grazing management on fish habitat, native fish communities and aquatic biodiversity is shown below. Fish habitat would be in satisfactory condition on 32% (166 miles) of the total stream miles as riparian areas are improved through implementation of grazing systems.

Fish habitat (miles)	Baseline	Alternative A
Satisfactory condition	42	161
Unsatisfactory condition	469	350

Meeting the Objectives

Objective: FISH 1: Improve unsatisfactory condition and maintain satisfactory condition habitat to support native fish so that all perennial streams are in satisfactory condition in twenty years.

This objective would be met on 32% (161 miles) of all stream miles in Alternative A. Continuation of hot season grazing practices would result in degraded riparian condition, degraded fish habitat, reduced aquatic biodiversity, and increased populations of warm water fish species on the majority of stream miles.

Objective: FISH 2: Improve reservoir fisheries when appropriate, in consultation with State agencies and adjacent landowners.

This objective would be partially met in Alternative A. Reservoirs located on-stream would be affected by the quality of upstream water. Poor buffering and filtering function of degraded upstream riparian areas would result in higher sediment loads and increased contamination of these reservoirs.

SPECIAL STATUS SPECIES

Special Status Plants

Change Agents

OHMV activities, livestock grazing, mining activities, vegetation treatments, livestock water developments, fencing, recreation use, land use authorizations, land tenure adjustments, plant collecting, ACEC designations and national river designations.

Impact Analysis

A projected increase in OHMV activity of would result in long-term adverse impacts on many of the resource area's 31 special status plant species. Most of this increased activity is projected to occur within the Snake River geographic reference area, where topographic and geologic conditions are most favorable for OHMV users. The combination of varied geology and arid climate in the Snake River geographic reference area has lead to colonization of this region by numerous uncommon and in some cases locally endemic plant species. A number of species reach the northern extent of their range in this area as well, and are therefore considered uncommon in Idaho. As many as 15 special status plant species are known to occur within the Snake River geographic reference area, and others could also be present, as a systematic inventory has not been conducted. Impacts on special status plant species are projected to be adverse, although the degree of impact would generally be less for species present on rockier soil types. Impacts would be both direct and indirect, including destruction of habitat, destruction of plants, and weed introductions resulting in habitat modification and increased competition for resources. Continuation of existing OHMV designations, with 420,493 acres left "Open" and 233,649 acres in a "Limited - Level 1" designation would have an overall long-term adverse impact on special status plant species.

Based on current estimates of ecological status, continuation of current livestock grazing practices, seasons-of-use and stocking levels would continue to have an adverse long-term impact on most species of special status plants. Because of the lack of historic distribution data for special status plants and the general deficiency of information on the effect of livestock grazing on these species, impact analysis must be somewhat inferential. However, classification of nearly 575,000 public land acres in an early seral stage, the prevalence of introduced plants (i.e. cheatgrass, Russian thistle) that now compete with native species, and the direct trampling impact of livestock that is occasionally observed, suggest that overall impacts on this particular component of the native flora are and would continue to be generally adverse. All species are probably affected somewhat, with less impact projected for those found in rocky or sparsely vegetated south-facing habitat. Such species include Simpson's hedgehog cactus, cushion cactus, Cusick's false yarrow, dwarf skullcap, and Owyhee clover.

Mining activities, including mineral exploration and development, would continue to have a long-term adverse impact on special status plants. Impacts are projected to be most severe within the Snake River geographic reference area, where the geology is represented by a variety of limited and localized materials (i.e. zeolite, bentonite, diatomaceous earth, oolitic limestone) that are currently mined. Many of these materials comprise the habitat of special status plant species. Impacts are projected to increase as demand increases and new mines are developed. In Alternative A, special status plant species and their habitat would continue to be destroyed and fragmented, primarily due to the difficulty in responding within a reasonable time frame to prevent potential adverse impacts caused by mining operations. The extent of impacts would be determined primarily by the amount of activity, location and mining techniques.

An estimated 72,700 acres of western juniper are identified for cutting or burning to help achieve the desired potential natural plant community. Most of the special status plants listed in Table SPSS-1 do not occur in juniper habitat. However, for those that do, the impact of these actions could be either beneficial or adverse, depending on the species involved. Species that could be affected include Osgood Mountains milkvetch, white eatonella, and dimersia. Because these species rarely grow below the juniper canopy, removing the overstory by cutting or burning is projected to have a beneficial long-term impact. However, adverse short-term and potentially long-term impacts on some special status plant populations are projected during woodcut treatments, when new roads develop and debris and slash could be piled directly over the plants. Adverse impacts from juniper removal by burning are generally projected to be minimal and short-term for special status plants, since the habitat for these species is typically gravelly and sparsely vegetated where fire would not carry well. Juniper areas would not be seeded after treatment, so ground disturbance would not be a factor.

In Alternative A, 65,900 acres of sagebrush are identified for treatment to lower shrub density and help reach the desired potential plant community. Plant species that could be impacted include Osgood Mountain's milkvetch, inch-high lupine, and possibly least phacelia. Impacts could be beneficial or adverse, depending on the species and type of treatment. Prescribed burns with no seeding would probably have a long-term beneficial impact, as long as invasion by exotic plants is not projected. It is projected that prescribed burning followed by seeding would have a long-term adverse impact on special status plant species. About 13,400 acres of the 65,900 acres have a seeding treatment prescribed following shrub removal. Areas of known populations would be avoided but potential habitat could be altered.

Construction of new livestock reservoirs (19), pipelines (3 miles), and spring (45) developments could result in long-term indirect adverse impacts on some special status plant species, primarily by moving livestock into areas that were previously little used. In some cases special status plants could benefit by improved dispersion of livestock if the livestock are prevented from concentrating in rare plant habitat. Direct impacts on special status plants would depend upon exact project locations, but in general, adverse impacts are projected to be minimal, since site examinations would be conducted prior to project approval.

The impact of 79 miles of pasture fence and exclosure fence construction on special status plants would be adverse only if it results in livestock concentrating within special status species habitat. In most cases, direct adverse impacts could be avoided by conducting field examinations prior to project approval. However, because field exams are not typically extended into adjacent areas and because complete inventory data is lacking, it is possible that unknown special status plant populations would be adversely impacted indirectly by construction of new fences and subsequent changes in livestock use. Fencing could benefit special status plants if the fence improves livestock distribution and relieves pressure on the plant's habitat.

Construction of foot and equestrian trail systems, development and implementation of management plans for nine Special Recreation Management Areas, and upgrading or development of recreational facilities at seven recreation sites, would result in increased public use at and in the vicinity of each of these areas. While this would result in some physical deterioration of native plant communities, conducting field examinations prior to project development would generally prevent or minimize potential adverse impacts on special status plants. However, adverse long-term impacts on special status plants could develop if recreationists begin spreading into sensitive areas where concentrated use was not projected. In addition to physical deterioration of native plant communities and special status plant sites, impacts could also be in the form of increased competition with exotic plants.

Prior to approval and issuance of any right-of-way, lease or permit, site examinations for special status plants would be conducted. While adverse impacts could occur if examinations were done at an inappropriate time of year, generally Alternative A would not adversely impact special status plants. Because land use authorizations could result in substantial surface disturbance, special status plants could be indirectly impacted by fragmentation of habitat and introduction of exotic plants into disturbed areas.

Adjustments in land tenure would have either a beneficial or adverse impact on special status plant species, depending on the purpose of the acquisition or exchange. These adjustments would generally be beneficial, as Bureau policy typically would not permit exchange or sale of public lands occupied by special status species, unless lands of a higher biological value are to be acquired.

Impacts on special status plant species from collecting could be slightly adverse over the long term in Alternative A. While plant collecting on public lands in Idaho is perceived to be minimal at the present time, increasing human population would put additional pressures on all resources. Enforcement and education are the only mechanisms for preventing these impacts. Principle species that would likely be affected include Simpson's hedgehog cactus and cushion cactus.

Designation and special management of four areas as ACECs or ONAs (Guffey Butte/Black Butte, Owyhee River Bighorn Sheep Habitat Area, Boulder Creek, North Fork Juniper Woodland) would have a slightly beneficial impact on special status plant species. While several rare plant populations occur within the boundaries of these areas, none of the areas were originally nominated for this resource. Species that would obtain some benefit include Simpson's hedgehog cactus, dwarf skullcap, and rattlesnake stickseed. Other species could potentially benefit, however because the areas have not been inventoried, this data is not available.

National river designations would have an overall long-term beneficial impact on special status plants. Designation of 94 miles of the East and South Forks of the Owyhee River as wild, scenic, or recreational rivers would result in withdrawal of these reaches from mineral entry, precluding any adverse impacts associated with mineral exploration and development. This designation would also result in vehicle access limitations and commercial recreation permitting, thereby limiting impacts associated with these actions. Because visitor use is projected to increase regardless of designation, some adverse impacts on special status plants found within the river canyons could occur. These species include rattlesnake stickseed, which grows at the base of canyon walls, and Simpson's hedgehog cactus, which occurs in rocky areas on canyon rims or on uplands above the river. The distribution of dimersia and white eatonella are poorly known, but they could also be affected.

Conclusion

The overall impact of Alternative A on special status plants is projected to be adverse. Major contributing change agents include continuation of current OHMV management; continuation of current livestock grazing practices, especially seasons of use; habitat destruction from mining related activities; some vegetation treatments such as sagebrush removal; and livestock water developments, resulting in redistribution of livestock into previously unused areas of sensitivity.

Meeting the Objectives

Objective SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

Based upon the lack of baseline inventory and monitoring data for most of the 31 special status plants, it is difficult to determine how they would respond to the management actions identified in Alternative A. However, it is reasonable to assume that species growing in habitats that would continue to be heavily impacted, such as the Snake River geographic reference area, would either decline or remain at current low levels. This could contribute to the listing of some plant species as Federally threatened or endangered. This objective would likely not be met for the plants found in these heavily impacted area.

Special Status Animals

Change Agents

Livestock grazing, livestock water developments, fencing, vegetation treatments, mining activities, OHMV activities, recreation use, ACEC and national river designations, wildlife water developments, habitat exclosures, nesting structures and islands, land tenure adjustments, land use authorizations and species reintroductions.

Impact Analysis

Continuation of current livestock grazing practices and stocking levels would likely have its most serious adverse impact on habitat for mountain quail, Preble's shrew, spotted frog, leopard frog and redband trout, all of which are dependant on riparian/aquatic habitats. Only 32% (211 miles) of these habitats are expected to be in satisfactory condition after twenty years which is only a 19% improvement over the current situation. An estimated 441 miles will remain in unsatisfactory condition. Continuation of domestic sheep grazing within the resource area could lead to increasing risk of disease transmission to California bighorn sheep as bighorn populations continue to grow and expand. Bighorn sheep are being observed with increasing frequency in the northern half of the ORA many miles from well established populations within the Owyhee River canyon complex, including areas grazed by domestic sheep.

Impacts of developing 67 livestock water projects (45 springs, 19 reservoirs and 3 pipeline troughs) would depend upon exact project locations but could result in deteriorated habitat conditions and reduced prey abundance for some special status animal species in the vicinity of these developments. This, in some cases, would offset the beneficial impacts of improved livestock distribution. Development of springs and pipelines could also result in reduced water availability at the water source and degraded habitat for the species such as mountain quail, Preble's shrew, western toad, spotted frog, leopard frog and redband trout. The existing policy of fencing to protect habitat could prevent much of the riparian habitat disturbance at developed springs, if fences are well maintained, and could actually improve habitat where livestock use was occurring prior to development of the spring.

Reservoir development could result in additional habitat for riparian/wetland special status animal species although many hold water for only a few months and support little aquatic or riparian vegetation. Exclosure fencing could be used to enhance habitat at some reservoirs but would not be practical at many smaller, more ephemeral reservoirs. Special status species most likely to benefit from well designed reservoir projects include white-faced ibis, black tern, western toad, spotted frog and leopard frog.

Construction of 79 miles of fence to Lower Snake River District wildlife standards would have little adverse impact on any special status animal species unless it results in concentration of livestock within special status species habitat. Special status species clearance procedures should prevent this from occurring in most cases. Some fencing could enhance special status species habitat by improving livestock distribution and relieving pressure on habitat areas of past heavy concentration.

Treatment (burning and woodcutting) to eliminate 50,420 acres of juniper woodlands and an additional 39,540 acres of sagebrush is projected to have little adverse impact on most special status animal species. Prescribed burning could result in the short-term loss of pygmy rabbit habitat by eliminating large areas of shrubs. However, treatment to eliminate invading juniper, especially woodcuts, could also benefit this species over the long term by preventing the gradual loss of shrubs as juniper density and cover increases.

Mineral exploration and development could have an increasingly detrimental impact on any or all special status animal species as additional habitat is disturbed. Impacts on populations and habitats would depend upon the exact location of mining related activities and types of impacts could range from complete loss of habitat and populations within disturbed areas to more subtle impacts associated with increased activity and noise within or adjacent to special status species habitats. Impacts on any special status species within or adjacent to areas of mining activity are generally projected to be adverse. Rapid population growth within southwest Idaho has resulted in an increased demand for decorative rock for use in landscaping and building construction. This has lead to a dramatic increase in both the authorized and unauthorized removal of readily available rock, primarily from the Owyhee front. This could result in a substantial loss of habitat for the Mojave black-collared lizard, western ground snake, longnose snake, ringneck snake, spotted bat, long-legged myotis, small footed myotis, western pipistrelle and possibly even burrowing owls which occasionally nest in rock talus.

A substantial increase in OHMV activity (a projected 37% increase by the year 2000) would likely result in adverse impacts on many special status animal species. Most of this activity is projected to occur within the Owyhee Front SRMA. As many as 14 special status animal species are known or expected to occur in this area, many of which could be adversely affected by OHMV activity. Special status species most likely to be adversely impacted include the western toad, mojave black-collared lizard, western ground snake, longnose snake, long-billed curlew, burrowing owl, ferruginous hawk and kit fox.

Couch's spadefoot toads in southeastern California were induced by the noise and vibrations created by OHMVs to emergence from underground burrows during the wrong season which could result in severe stress from depletion of fat reserves and dehydration (Berry 1980). OHMV activity could result in similar adverse impacts on western toads which are found throughout the ORA, including the Owyhee Front SRMA. Other adverse impacts could include soil compaction in the vicinity of burrows, burrow collapse and toads being struck by OHMVs.

All three special status snake species have been verified as occurring within the Owyhee Front SRMA (Dillar and Johnson 1982). Projected impacts longnose snakes and, to a lesser degree, ringneck and western ground snakes include loss of habitat, burrow collapse, depletion of prey numbers and possible displacement of these and other species along and adjacent to heavily used trails. Studies in Southern California have revealed that OHMV use results in significant decreases in prey species including lizards, rodents and arthropods (Luckenbach and Bury 1983, Bury et al. 1977, Busack and Bury 1974).

Long-billed curlew nesting habitat is concentrated primarily north of highway 78 within the large burn and seeding west of Sinker Creek. Other isolated nesting habitat occurs south of the highway and west of Fossil Creek although no large nesting concentrations are known or expected to occur in this area. Impacts on long-billed curlews could include nest destruction, flushing of adults and or young birds resulting in nest abandonment and increased losses to predation and direct losses from collisions with OHMVs. It has been observed that modification of vegetation structure and the periodic presence of drivers and their vehicles caused habitat to become unsuitable for use by nesting curlews in western Idaho (Jenni, et al 1982).

Several burrowing owl nest sites have been documented within the Rabbit Creek trailhead area and the southeast periphery of the Hemingway Butte Trailhead area although no owls or evidence of occupied burrows could be found at any of these sites in 1994. Potential impacts on burrowing owls could include collapse of nesting burrows, habitat modification, reduced prey numbers, repeated flushing of adult birds possibly leading to nest abandonment, and or increased exposure of eggs or young birds to predation and, loss of birds from collisions with OHMVs. Unlike most other owls, burrowing owls are active during daylight hours making them more susceptible to human disturbance.

Several ferruginous hawk nests are located east of Fossil Creek within the SRBOPNCA and Fossil Creek OHV Management unit north of Highway 78. Adverse impacts from OHMV activity could include reduction in prey numbers, interference with foraging activities, loss of young and adult birds to shooting, nest abandonment caused by frequent disturbance and nest destruction. A survey of specialists involved in raptor research and management by Suter (1981) revealed that OHMV activity can and often does result in significant disturbance of nesting ferruginous hawks including flushing from nests, abandoning hunting activity and nest abandonment.

Impacts on kit fox could include significant loss of prey base, collapse of dens and noise disturbance. In the Algones Dunes of south-eastern California it was found that kit fox tracks were twice as common in control plots as in OHMV use areas (Luckenbach and Bury 1983).

Impacts on pygmy rabbits would likely be similar to those projected for kit fox including vegetation disturbance and loss, burrow collapse and noise disturbance. However, because of the pygmy rabbit's strong association with dense shrub habitats they are probably less susceptible to impacts from OHMV activity than species occupying more open habitats.

Implementation of the Back Country Byways program, development and implementation of management plans for nine Special Recreation Management Areas, upgrading or development of recreational facilities at seven recreation sites and construction of foot and equestrian trail systems would likely result in increased public use at and in the general vicinity of each of these sites. This would, in some cases, result in increased physical habitat deterioration and disturbance and displacement of special status animal species within the areas of increased use, although, by concentrating use in these areas, unregulated use elsewhere could decline. Several studies have demonstrated the displacement of desert bighorn attributed to increases in human use such as hiking, backpacking and other types of recreational activity (Light 1971, Graham, 1971 and Dunaway, 1970). Others have demonstrated adverse impacts of human activities to ferruginous hawks and other raptors (Suter and Jones 1981). Special restrictions on vehicle access and commercial recreation permitting within SRMAs would limit adverse impacts associated with these activities (see below). Overall cumulative short-term and long-term impacts of these actions is projected to be slightly adverse because of the projected additional visitor use generated by each of these. Impacts would continue to increase each year as visitor use increases.

An increased number of organized equestrian events and commercial guiding and outfitting services could also result in increased impacts on some or all special status animal species depending upon location, timing and restrictions imposed. As with OHMV and other recreational activities, equestrian events would result in concentrated use and associated habitat damage and species disturbance. Guiding and outfitting activities, while resulting in little physical habitat damage, could result in localized disturbance and displacement of some special status species similar to those projected above. They could also contribute to additional recreational use caused by clients returning to the area on their own. Overall short-term and long-term impacts are projected to be slightly adverse and impacts would likely increase over the next 20 years.

Designation of 94 miles of the South and East Forks of the Owyhee River as a wild, scenic or recreational river would result in withdrawal of these reaches from mineral entry. This would preclude any impacts on special status animal species associated with authorized mineral-related activities in these reaches. This designation would also result in strict limitations on vehicle access and travel and commercial recreation permitting, thereby limiting impacts typically associated with these actions. Special status species that could benefit include the bald eagle, peregrine falcon, mountain quail, white pelican, spotted bat, Townsend's big-eared bat, long-legged myotis, long-eared myotis, fringed myotis, western pipistrelle, California bighorn sheep, spotted frog, ringneck snake, long-nosed snake and redband trout. Both short-term and long-term impacts are projected to be beneficial.

Construction of wildlife water developments (primarily guzzlers) would likely result in very limited benefits to most special status animal species since most are not limited by the availability of upland drinking water.

Habitat exclosures which would continue to be constructed primarily to protect and enhance relatively small areas of riparian/wetland habitats could benefit any or all of the special status animal species associated with these habitats but would improve only a small percentage of all riparian/wetland habitat within the resource area. Construction of riparian pasture fences would result in similar benefits.

Development of nesting islands could conceivably benefit white pelican or black terns although neither species is known to nest within the resource area. Cumulative short-term and long-term impacts of these actions would be beneficial.

Land tenure adjustments could result in either beneficial or adverse impact on special status animal species depending upon the purpose of the exchange or acquisition. Many adjustments would result in acquisition of high quality habitat (including special status species habitat) and consolidating public ownership within ACECs, WSAs, national river corridors, etc. These acquired lands would normally be managed with special restrictions beneficial to special status species. Land tenure adjustments for other purposes would include special stipulations to avoid or mitigate adverse impacts on special status species. The overall short-term and long-term impacts of land tenure adjustments are projected to be beneficial.

Land use authorizations (rights-of-ways, leases and permits) would continue to have a net adverse impact on special status animal species as habitat is dedicated to other uses. Most land use authorizations result in substantial surface disturbance and subsequent long-term alteration or destruction of habitat for resident wildlife species. Although special status species are given special consideration, a continuing lack of current inventory data severely limits our ability to accurately assess impacts on these and other wildlife species. Even though most actions affect a relatively small area the cumulative impact over 20 years could be significant. Short-term and most long-term impacts are projected to be adverse.

Facilitating the reintroduction of peregrine falcons into suitable, unoccupied habitat within the resource area would have a beneficial impact on this species by establishing additional breeding territories which could contribute to eventual downlisting to threatened status or delisting entirely.

Facilitating the reintroduction and natural establishment of California bighorn sheep into suitable, unoccupied habitat would have a beneficial impact on this species. As more and more historic habitat is reoccupied the future of this subspecies would become more secure.

Conclusion

The overall impact of Alternative A on special status animal species is projected to be adverse. Major contributing adverse actions include the continuation of current livestock grazing practices, especially within riparian/wetland habitats; some prescribed burning treatments; continuing minerals related activities including a rapidly increasing demand for decorative rock; continuation of current OHMV management strategies and increasing levels of OHMV and most other recreational activities; and increasing number of land use authorizations. Beneficial actions would include some reservoir developments, some vegetation treatments, national river designations, island development, riparian/wetland exclosures and pastures, most land tenure adjustments and species reintroductions.

Meeting The Objectives

Objective SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

Based upon the current lack of baseline inventory and monitoring data for most special status animal species, it is difficult to determine how current management is affecting most of these species or to accurately project which ones would respond to the allocations and management actions prescribed in Alternative A. It is reasonable, however, to assume that those special status species populations dependant upon habitats that would continue to be heavily impacted including most riparian/wetland habitats and those within the Owyhee Front OHV Management Area would either decline or remain at current low levels. This could contribute to eventual listing as Federally threatened or endangered or preclude downlisting or delisting. This objective would likely not be met for most animal species within these heavily impacted habitats.

WILD HORSE MANAGEMENT

Change Agents

OHMV activities, recreation use, mining activities, fencing, livestock water developments and livestock grazing.

Impact Analysis

Increased public use in HMAs has long-term effects on wild horses by reducing their living space and displacing them from historical water sources and use areas. It is projected that some wild horses would be forced outside designated HMAs. Stress would increase when the wild horses felt threatened by human contact. There is a projected increase in general recreation use within the resource area with the majority of projected OHMV use occurring along the Owyhee Front. Retention of the Owyhee Front SRMA would concentrate motorized recreational use on 86,953 acres of the Hardtrigger and Black Mountain HMAs. Two established trailheads would continue to encourage use of existing OHMV opportunities. Much of the increased OHMV activity projected to occur over the next 20 years would occur at these two trailhead areas which has been the historic trend. Concentrated motorized recreational use has developed extensive trail systems particularly in the Black Mountain HMA and has increased motorized use on historic horse trails throughout all HMAs. An area of 15,657 acres is no longer used by wild horses because of the high frequency of contact with people and motorized vehicles, particularly during open winters and spring periods. Lack of funding and personnel to adequately patrol and enforce existing OHMV regulations would also contribute to accelerated habitat degradation and wild horse disturbance because of an inability to control unauthorized OHMV use. Impacts would continue to be highest within the Owyhee Front SRMA. Substantial long-term impacts are projected within the Black Mountain and Hardtrigger HMAs. Those impacts would include habitat deterioration as well as animal disturbance, displacement and added stress. A projected increase in recreation user days could result in cumulative impacts on wild horses with the current ORV Management Plan. A continued "Limited - Level 1" designation would result in some increased habitat degradation and disturbance. Degraded habitat and areas of disturbances could allow for the establishment of noxious weeds which could adversely affect the wild horses potentially resulting in birth defects, abortions and death.

The increasing number of organized equestrian events and commercial guiding and outfitting services would also result in increasing impacts on wild horses and their habitat. As with OHMV activities, equestrian events would result in concentrated use and associated habitat damage and wild horse disturbance.

Guiding and outfitting activities, while resulting in little physical habitat damage could result in localized disturbance and displacement of wild horses. They would also contribute to additional recreational use caused from clients returning to the area on their own. Short and long-term impacts are projected to be adverse and impacts would likely increase over the next 20 years.

Exploration and development of locatable mineral and fluid mineral resources in HMAs could have an increasing detrimental impact on wild horses as habitat is disturbed over the next 20 years within the Black Mountain and Hardtrigger HMAs. The extent of habitat impacts would be determined by the amount of activity, advances in mining and mitigation techniques, location and other factors. Impacts would be in the form of short-term and long-term habitat loss at exploration and mining locations, increased public access associated with exploration, assessment and mining roads and ways and indirect disturbance to wild horses within the vicinity of mines and exploration operations. See Map LOCM-2 for locatable mineral potential. The HMAs would remain open for exploration and development of minerals.

Fences and spring developments would have substantial long-term impacts if placed in areas of traditional wild horse movement or use. Fences are not beneficial to wild horses because their ability to access forage and water sources along with their ability to move away from threats would be limited or precluded. Gates along fence lines, if not opened in a timely manner after authorized domestic livestock grazing periods, would reduce winter range access and free-roaming movements.

Water developments could increase forage competition with livestock. Development of livestock water projects is projected to result in deterioration of habitat conditions for wild horses at and near the developments resulting in degraded habitat because of concentrated livestock use. Development of springs and pipelines could also result in reduced water availability at spring sources or streams resulting in reduced water sources for wild horses.

Grazing systems could modify wild horse distribution and free-roaming patterns. Grazing systems and scheduled closing of gates to control domestic livestock movement confines horses to particular allotments or pastures over the course of the grazing season. The movement of livestock by the permittees has at times resulted in displacement of wild horses. The effects could be long-term. Short-term impacts of this domestic livestock grazing would occur during years of low forage production and high annual utilization, adversely impacting the general health and vitality of the wild horse herds. When domestic livestock use is balanced with forage production the wild horses would be assured of adequate forage. Continuation of current domestic livestock grazing practices and stocking levels could result in increased forage competition. This could result in unacceptable levels of utilization on key forage species and an overall decline in habitat conditions. Drought conditions would compound this situation. Drought conditions, in combination with current domestic livestock grazing practices, are resulting in an observed decline in production and vigor of vegetation, especially at lower elevations throughout the HMAs.

Conclusion

Overall, it is projected that the wild horses would be adversely affected through reduced water availability and free-roaming opportunities and increased stress from increased public interaction in Alternative A.

Meeting the Objectives

Objective WHRS 1: Maintain wild and free-roaming horses in the Owyhee Wild Horse Herd Management Areas (HMAs) at appropriate management levels (AML) within a thriving natural ecological balance.

In Alternative A, the objective for wild horses would not be fully met. Free-roaming behavior and general animal health would be adversely impacted over the long-term.

Projected impacts on specific wild horse needs are shown on the following page.

Impacts on General Health and Free Roaming Opportunities

Components	Baseline	Short-Term	Long-Term
Forage Allocation	2,329 AUMs	2,329 AUMs	2,329 AUMs
Viability Level	118 head	118 head	118 head
Estimated Herd Size	178 head	AML	AML
General Health	0	0	-

Free Roaming Opportunity

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	0	-
0521	Seeding	2	0	-	-
0521	Bridge Creek	3	0	0	0
0522	Rats Nest	1	+	+	+
0556	Shares Basin	1	0	0	-
0513	Elephant Butte	3	-	-	-
0516	Opalene	3	0	0	0
0516	Hardtrigger	4	0	0	0
0516	Piute	5	0	0	-
0516	Hemingway	1	-	-	-
0508	Wilson	1	0	0	0
0508	Soldiers Cap	3	0	0	0
0508	Salmon Butte	4	-	-	-
0508	Whiskey Hill	5	N/A	N/A	N/A
0508	Alkali	6	N/A	N/A	N/A
0651	North Rabbit	1	0	-	-
0651	Little Kane	2	0	0	0
0651	State	4	0	0	0
0517	West Rabbit (N)	1	-	-	-
0517	West Rabbit (S)	2	-	-	-
0517	Kane Spring	3	0	0	0
0517	Moores Creek	6	-	0	0
0517	South Rabbit	5	0	0	0
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

Water Availability for Wild Horses in HMAs on a Year Long Basis

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	-	-
0521	Seeding	2	0	0	-
0521	Bridge Creek	3	-	-	-
0522	Rats Nest	1	0	0	0
0556	Shares Basin	1	0	0	0
0513	Elephant Butte	3	-	-	-
0516	Opalene	3	0	0	0
0516	Hardtrigger	4	0	0	0
0516	Piute	5	0	0	-
0516	Hemingway	1	-	-	-
0508	Wilson	1	0	0	0
0508	Soldiers Cap	3	0	0	0
0508	Salmon Butte	4	0	0	0
0508	Whiskey Hill	5	N/A	N/A	N/A
0508	Alkali	6	N/A	N/A	N/A
0651	North Rabbit	1	-	-	-
0651	Little Kane	2	0	0	0
0651	State	4	0	0	0
0517	West Rabbit (N)	1	-	-	-
0517	West Rabbit (S)	2	-	-	-
0517	Kane Spring	3	0	0	0
0517	Moores Creek	6	0	0	0
0517	South Rabbit	5	0	0	0
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

Public Interaction/Contact with Wild Horses Resulting in Disturbance

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	0	-
0521	Seeding	2	0	0	-
0521	Bridge Creek	3	0	0	0
0522	Rats Nest	1	-	-	-
0556	Shares Basin	1	0	0	-
0513	Elephant Butte	3	-	-	-
0516	Opalene	3	-	-	-
0516	Hardtrigger	4	0	0	-
0516	Piute	5	0	0	-
0516	Hemingway	1	-	-	-
0508	Wilson	1	-	-	-
0508	Soldiers Cap	3	0	-	-
0508	Salmon Butte	4	0	0	-
0508	Whiskey Hill	5	N/A	N/A	N/A
0508	Alkali	6	N/A	N/A	N/A
0651	North Rabbit	1	-	-	-
0651	Little Kane	2	0	-	-
0651	State	4	0	0	-
0517	West Rabbit (N)	1	-	-	-
0517	West Rabbit (S)	2	-	-	-
0517	Kane Spring	3	+	-	-
0517	Moores Creek	6	+	+	-
0517	South Rabbit	5	+	+	-
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

LIVESTOCK GRAZING MANAGEMENT

Change Agents

Livestock grazing systems, vegetation treatments, range improvements, interim management policy for wilderness study areas, national river designations, ACEC designations and mining activities.

Impact Analysis

Active preference is currently 136,285 AUMs with a average licensed use of 115,144 AUMs. Alternative A would result in a 5-year preference of 136,285 AUMs and a projected 20-year preference also of 136,285 AUMs. See Table LVST-A for forage allocations by allotment.

Maintenance and implementation of intensive grazing systems should reduce the need for livestock use reductions, for the uplands. With the prescribed season-of-use and grazing systems, livestock grazing in riparian ecosystems would continue during the hot summer months. Utilization, climate and actual use would be used to balance forage production with livestock use. See Table LVST-A for grazing systems by allotment.

Vegetation treatments (prescribed burning and prescribed burning and seeding) would result in a short-term loss of 12,628 AUMs during prescribed burn management because of rest from livestock grazing for three consecutive growing seasons; one growing season before the burn (to insure sufficient fuel to carry a fire) and two growing seasons after the burn (to enhance vegetation establishment). The long-term impacts would result in an increase of 63,137 AUMs potentially available in the prescribed burn areas due to regrowth and seeding. It is not projected that the vegetation treatments would result in increased active preference on any allotment. See Table LVST-3 for potential vegetation treatments.

Vegetation Treatments	Prescribed Burn	Burn and Seed	Total
Acres	108,200	13,400	121,600
Short-term reductions (AUMs)	11,236	1,392	12,628
Long-term production (AUMs)	56,180	6,957	63,137

Range improvement projects (water developments and fences) needed to implement allotment grazing systems and manage livestock distribution would be designed to decrease unsatisfactory rangeland conditions and to meet other resource objectives. New fences would be designed and constructed and existing fences would be modified to meet Lower Snake River District Fence Policy standards for the wildlife species present to minimize barriers to big game movement. See Appendix RISP-1 and Figure WLDF-1. With increased recreation use, the increased projects for livestock grazing could result in increased recreation facilities to reduce potential livestock/recreation conflicts. Cattleguards and other facilities would be constructed as necessary where new projects impede recreation movement. See Table LVST-3 for potential range improvement projects for Alternative A.

Interim management policy for wilderness study areas would restrict rangeland project developments but would not change livestock management practices. No reductions or increases in active preference would result from the interim management policy.

National river designations could result in livestock being removed from designated river channels. This could result in a change in the affected allotment's season-of-use but there are no projected reductions in active preference.

ACEC designations and special management would result in one small area being fenced to exclude livestock but would not result in any AUMs being lost to livestock grazing. Within the Owyhee River Bighorn Sheep Habitat Area ACEC no livestock water developments would be constructed. No changes in existing management are prescribed for this ACEC. See Table ACEC-A for ACEC management actions.

The Stone Cabin Mine would reduce stocking rates on three allotments (Jump Creek, Flint Creek and Silver City) by 112 AUMs for the life of the mine which is projected to be 30 years. Reclamation of all but about 105 acres would result in all but 15 AUMs being returned to active preference.

Conclusion

Implementation of Alternative A with the associated grazing management actions would have no significant impacts on current livestock management. Few, if any, adjustments to livestock stocking rates or changes in livestock management are projected or prescribed over the short term or long term. Forage demands would be met with the vegetation treatments, range improvements and grazing systems identified. In 20 years only slight improvement is projected with 37% of the rangelands in the Jordan Creek and Owyhee River geographic reference areas remaining in an early seral stage and 17% achieving a late seral stage. Upland conditions in the Snake River geographic reference area would not improve with continued spring grazing systems. Continued livestock access to riparian ecosystems throughout the resource area during the hot summer months would not allow recovery or improvement of the riparian ecosystems and the water, riparian and fish objectives would be met on only 32% of the stream miles. Livestock use (active preference) would remain at 136,285 AUMs at the end of 20 years.

Upland rangeland condition would improve only slightly in the Jordan Creek and Owyhee River geographic reference areas and it is projected that 37% would remain in an early seral stage with 17% in a late seral stage.

Meeting the Objectives

Objective LVST 1: Resolve issues associated with livestock grazing identified in the allotment summary (Appendix LVST-1). Resolve all identified issues within 20 years.

This objective would not be met in Alternative A because of unresolved resource concerns that were identified.

LOCATABLE MINERALS

Change Agents

Mineral withdrawals for wilderness areas, corridors along nationally designated rivers, certain recreational areas and ACECs, riparian and wetland management, water quality, recreation use and land tenure adjustments.

Impact Analysis

Withdrawal actions taken by Congress or the Secretary of the Interior in Alternative A would remove 218,649 acres (about 15%) of public lands in the resource area from location and development under the general mining laws, subject to valid existing rights of pre-existing mining claims. Validity exams would be conducted on these claims to determine whether valid existing rights exist. See Table LOCM-A for specific closures.

Managing lands with high locatable mineral potential near DeLamar primarily for mineral development could result in adverse impacts on riparian areas, water quality, wildlife, cultural, and wetland resources through the construction of roads, drill pads, mine pits, dumps, heap leach pads and related facilities. Requiring industry to use best management practices during all phases of exploration and mining would minimize damage to other resource values. Mitigating measures would stabilize areas disturbed during mining and prevent excess sediment deposition in wetlands and live streams. Proper design of facilities would reduce or eliminate acid mine drainage and wildlife kills. Cultural resources could be salvaged prior to or during construction to mitigate adverse impacts on historic resources. Performance bonds would be required of all operations conducted under a Plan of Operations as defined by 43 CFR 3809.1-4. Inspections of all exploration operations using mechanized equipment and of all mining operations would occur on a frequent basis to insure an adequate level of mitigation and protection.

Recreation activities would generally be incompatible with mining and exploration operations. Exploration and mine sites may need to be fenced off from nearby established recreations sites such as campgrounds and OHMV trails for safety reasons. New mining access routes could be restricted or located to not interfere with certain recreation activities. New campgrounds and related recreational facilities should be located well away from active mining operations to avoid noise, dust and mine-related safety hazards.

Land tenure adjustments would remove a small amount of land from location under the general mining laws. Mineral reports would be prepared on all lands involved in the sales and exchanges and mining claims on public lands would require a validity examination to determine any valid existing rights.

Conclusion

The overall impact of Alternative A on locatable mineral management would be favorable to mineral resource development, but could have moderate to severe short-term impacts on other surface resources.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Physical access to the resource is provided for by the mining laws. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Two main criteria were considered when determining if the objectives were being met: 1) Developmental restrictions - if maximum bonding, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 2) Potential likelihood of development - is the resource present in economically minable amounts.

Objective LOCM 1: Provide opportunities for exploration and development of locatable mineral resources on public lands under the Mining Laws.

This objective would be met in Alternative A.

Availability of Lands for Locatable Mineral Activity Relative to Resource Potential - Alternative A

Management Constraint	High Potential	Moderate Potential	Total
Public Lands			
Open	25,300	1,224,909	1,250,209
Withdrawn	40	218,609	218,649
Split Estate			
Open	2,135	128,856	130,991
Withdrawn	40	2,410	2,450

FLUID MINERALS

Change Agents

Mineral leasing closures and restrictions in wilderness areas, corridors along nationally designated rivers, certain recreational areas and ACECs, for riparian and wetland management, water quality protection, recreation use, and land tenure adjustments.

Impact Analysis

In Alternative A 98,853 acres (7%) of public lands in the resource area would be closed to oil and gas and geothermal leasing. Of this acreage 65,131 acres are currently closed. All but 2,926 acres of split-estate lands (oil and gas) and 3,342 acres (geothermal), where the surface is privately owned, would be open to leasing.

Restriction of fluid mineral operations through seasonal or yearlong no surface occupancy would impact 529,457 acres (36%) of public lands in the resource area. Seasonal restrictions on operations would not seriously impede any future leasing activity and should provide adequate protection to wildlife resources. Nearly 120,000 acres are prescribed for yearlong no surface occupancy restrictions, which could have an adverse impact on leasing since there would be no practical way to explore or develop some of these lands. See Table FLUM-A for specific closures and restrictions.

Modifications to any future exploration or drilling program would usually be made to protect riparian and wetland areas and water quality without seriously impeding fluid mineral development. Protection of these resources would not likely have any serious impact on fluid mineral operations in the foreseeable future.

Recreation activities would generally be incompatible with fluid mineral exploration and development. Noise, dust and heavy machinery associated with drilling operations would adversely impact recreational opportunities on the public lands. Future drilling sites may have to be fenced off from nearby established recreation areas, such as campgrounds, OHV parks or trails for safety purposes. Access routes into fluid mineral development sites may have to be restricted or relocated to not interfere with certain recreation activities. Established recreation sites may require a buffer of public lands where development activities would be restricted to reduce disturbance to recreationists.

Land tenure adjustments would cause some minor shifts in the amount of land available for fluid mineral leasing.

Conclusion

The outlook for an active fluid minerals leasing and exploration program is poor. There would always be some interest in fluid minerals in southwest Idaho, particularly in low-temperature geothermal resources, but until energy prices are much higher then present or until new technology becomes available, no leasing activity is likely to occur. Large scale no surface occupancy restrictions may have a small adverse impact on any leasing interest in the southern part of the resource area. Overall, the impact of Alternative A on fluid minerals development is favorable.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

Objective FLUM 1: Provide opportunities for exploration and development of oil and gas and geothermal resources on public lands by imposing the least restrictive leasing categories necessary to protect other resources.

This objective would be met in Alternative A.

Availability of Lands for Fluid Mineral (Oil and Gas) Activity Relative to Resource Potential - Alternative A

Management Constraint	Low Potential	Zero Potential	Total
Public Lands			
Open	748,338	92,210	840,548
Open-Seasonal Occupancy	263,000	147,000	410,000
Open-No Surface Occupancy	109,457	10,000	119,457
Closed	98,813	40	98,853
Split Estate			
Open	65,103	65,412	130,515
Closed	2,926	0	2,926

Availability of Lands for Fluid Mineral (Geothermal) Activity Relative to Resource Potential - Alternative A

Management Constraint	High Potential	Low Potential	Total
Public Lands			
Open	82,693	757,855	840,548
Open-Seasonal Occupancy	14,100	375,900	410,000
Open-No Surface Occupancy	340	119,117	119,457
Closed	57,106	41,747	98,853
Split Estate			
Open	840	129,259	130,099
Closed	3,122	220	3,342

MINERAL MATERIALS

Change Agents

Population growth; mineral withdrawals for certain wildlife areas, recreation sites, natural areas and ACECs; riparian and wetland management, recreation use and land tenure adjustments.

Impact Analysis

In Alternative A, 3,220 acres (7%) of public lands classified as having high potential for sand and gravel would be closed to disposal. This small area is not likely to seriously impede development of the area's mineral material resources. See Table MMAT-A for specific closures.

Protecting riparian areas and wetlands would require some restrictions on the development of mineral material sites, particularly along stream channels. Future material sites would likely be located along bench and terrace gravel deposits and alluvial fans away from any live water. Access roads into material sites may need to be relocated or engineered specifically to protect wetlands and riparian areas.

Recreation activities would generally be incompatible with mineral material development, at least during the extraction phase. Future material sources located near existing recreation sites may need to be fenced and gated for safety reasons. Access routes into material sites could be restricted or moved as to not interfere with certain recreation activity. Future campgrounds and related facilities should be located away from active material sites to avoid noise, dust and mine-related safety hazards.

Land tenure adjustments would remove a small amount of public land from availability as material sources.

Conclusion

The overall impact of Alternative A on mineral materials management in the resource area is generally favorable for the development of these resources.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

Objective MMAT 1: Provide opportunities for use of common variety minerals obtained from the public lands.

This objective would be met in Alternative A. Availability of Lands for Mineral Materials Activity Relative to Resource Potential - Alternative A

Management Constraint	High Potential	Moderate Potential	Total
Public Lands			
Open	40,080	1,210,573	1,250,573
Closed	3,220	215,065	218,285
Split Estate			
Open	1,370	131,029	132,399
Closed	20	1,022	1,042

RECREATION

Change Agents

Recreation use, OHMV designations, special designations, recreation facilities, fencing, water developments, acquisition, vegetation treatments, locatable and fluid mineral activities and utility corridors.

Impact Analysis

Changes in the Availability of Recreation Opportunity Settings:

Alternative A would continue the existing array of recreation opportunity spectrum (ROS) settings available throughout the resource area, yet would result in some shift in the amount of acreage available in each classification as shown below. ROS classifications are an expression of the type of experiences one can achieve while in an area with a combination of social, physical, and managerial settings. Settings are defined in terms of their remoteness, size, evidence of human use, social environment (amount of visitation or use), and management presence (facilities as well as personnel). See Table RECT-3 for details on each of the settings. Semi-primitive motorized settings would remain the predominate opportunity class covering about 44% of the resource area. In the northern portion of the resource area (the Snake River and Jordan Creek geographic reference areas), roaded natural, rural, and urban settings would accompany semi-primitive motorized settings. Some semi-primitive nonmotorized settings would exist in remote mountainous areas. To the south (Owyhee River geographic reference area), semi-primitive motorized settings would continue to isolate numerous pockets of semi-primitive nonmotorized settings across the open plateau areas, as well as define a concentration of primitive and semi-primitive nonmotorized settings encompassing the Owyhee Canyonlands and the North Fork Owyhee River Backcountry SRMAs. In the south, roaded natural settings with some rural acreage would only be associated with the Owyhee Uplands National Back Country Byway and several connecting roadways.

Management actions in Alternative A are projected to cause changes in ROS class acreages primarily within primitive and semi-primitive motorized and nonmotorized settings. Changes in classification could result from 1) off-highway motorized vehicle activity allowed under various OHMV designations; 2) increased administrative access to new range improvements; 3) vegetation treatments (juniper harvesting); or 4) development of new roads or upgrading existing vehicle routes for mineral exploration and development. Continued random OHMV activity in "Open" designations could result in new semi-primitive motorized travel corridors which could penetrate what are now primitive or semi-primitive nonmotorized settings. Administrative routes to new range improvements are projected to be unconstructed jeep trails, potentially reducing the amount of primitive and semi-primitive nonmotorized settings available. Mineral development, such as that in the vicinity of Silver City, would change semi-primitive motorized settings to roaded natural settings with the construction of maintained gravel roadways. Recreational development would also contribute somewhat to increased roaded natural settings.

ROS Classifications Availability In Alternative A (See Map RECT-1)

ROS Class	Total Acres in 1991	Percent of Resource Area in 1991	Percent of Resource Area in 2015
Primitive	234,940	13%	10%
Semi-Primitive Nonmotorized	386,150	22%	23%
Semi-Primitive Motorized	794,010	44%	44%
Roaded Natural	177,080	10%	12%
Rural/Urban	187,225	11%	11%
Total*	1,779,405	100%	100%

* All lands: BLM, State and private.

While wilderness study lands remain under the BLM Wilderness Interim Management Policy (IMP), no change in the availability of primitive or semi-primitive nonmotorized settings in wilderness study areas would occur within the Owyhee River geographic reference area. Should suitability recommendations as presented in the Owyhee RMP be accepted by Congress, 123,800 acres of public lands would be released from the IMP and made available for other multiple uses, including vegetation treatments. These treatments could substantially affect the naturalness of the Juniper Mountain area, converting primitive settings to mostly semi-primitive motorized settings. In the North Fork Owyhee River Backcountry SRMA/WSA, vegetation treatments could cause some reduction in naturalness, resulting in a shift toward semi-primitive nonmotorized settings. The semi-primitive nonmotorized settings of the plateau lands in the Owyhee Canyonlands region (including nonsuitable WSA lands) could allow wildfire rehabilitation projects (drill seeding) and mineral exploration and development that affect the quality of semi-primitive nonmotorized experiences by reducing naturalness, yet these actions may not cause a change in ROS class. Some acreage of primitive settings in non-WSA areas around upper Nickel Creek would also shift to semi-primitive motorized or nonmotorized settings as a result of woodland treatment projects.

Off-highway motorized vehicle (OHMV) designations prescribed in Alternative A would restrict public use on 899,158 acres in the resource area. The restrictions would limit OHMV use in any given “Limited” area to one of nine levels based upon the availability of vehicle routes. The remaining 420,493 acres of the resource area would be “Open” to cross-country travel of motorized vehicles. See Map RECT-1A.

Alternative A prescribes continuation of existing OHMV designations (Owyhee Off-Road Vehicle Management Plan, 1987). As such, Alternative A would have no impact on existing authorized OHMV opportunities within the resource area. Unauthorized OHMV activities occurring in violation of existing OHMV designations are generating additional trails in both the Owyhee Front SRMA (Snake River GRA) as well as south into the Jordan Creek GRA within the Owyhee Mountain Range, principally around Silver City. Some OHMV use in violation of OHMV designations is also occurring in the Owyhee Canyonlands/Juniper Mountain area. This unauthorized use is due, in part, to inadequately posted OHMV designations throughout the resource area.

OHMV Designations for Alternative A (See Map RECT-1A)

Designation	Acres
Open	420,493
Limited - Level 1	233,649
Limited - Level 2	0
Limited - Level 3	0
Limited - Level 4	541,074
Limited - Level 4-IMP(0)	109,140
Limited - Level 5	0
Limited - Level 6	15,295
Limited - Level 7	0
Closed	0
Total	1,319,651

Impacts on Recreational Opportunities in Special Recreation Designations:

Alternative A prescribes intensive management for ten (10) special recreation management area (SRMA) designations totalling 312,801 acres as shown below. Alternative A also recommends the congressional designation of 94 miles along the East Fork and South Fork Owyhee River as national wild and recreational rivers within the Owyhee Canyonlands SRMA.

Recreation Management Area Designations for Alternative A (See Map RECT-2A)

Recreation Management Area Name	Acres	
Owyhee ERMA	1,020,580	
Blackstock SRMA	6,149	
Jump Creek SRMA	8,667	
North Fork Owyhee SRMA	56,602	
Owyhee Front SRMA	180,940	
Owyhee Canyonlands SRMA	36,841	(5,627 additional in BRA)
Silver City SRMA	2,174	
Oregon Trail SRMA	7,305	
Snake River Birds of Prey SRMA	7,766	
Deep Creek SRMA	5,882	(5,918 additional in BRA)
North Fork Canyon SRMA	475	
Total SRMAs for Owyhee Resource Area	312,801	
Total acres in Owyhee Resource Area	1,333,381	
Total SRMAs for Bruneau Resource Area		11,545

Suitable River Segments for Alternative A (See Map WSR-1)

SEG.#	Segment Name	Miles	Classification
S1a,c	South Fork Owyhee River	28.0	Wild/Recreational
S3a	East Fork Owyhee River	66.0	Wild
Total for Owyhee Resource Area		94.0	

Special designations managed under current recreation objectives would ensure long-term protection of recreational opportunities dependent on predominately primitive and semi-primitive motorized and nonmotorized settings and, in some areas, roaded natural settings. In Alternative A, management actions prescribed in these areas are tailored toward protecting existing ROS classifications by minimizing changes in the current physical settings (all three GRAs), and by improving public pedestrian (foot) access to allow the enjoyment of primitive settings by a larger sector of the general public. All existing developed recreation sites (roaded natural settings) in the resource area would be maintained or upgraded within SRMAs. Alternative A would also enhance roaded natural settings through the development of new recreation sites in the North Fork Backcountry and Owyhee Canyonlands SRMAs. New site work would also include reconstruction of Castlehead Springs and Trout Springs hunter camps as well as other small sites, as appropriate, in the extensive recreation management area.

National river designation for 94 miles of river canyons would include withdrawal of the affected lands from mineral entry, precluding any potential irretrievable loss of outstanding primitive recreational values considered to be of national significance.

Impacts on the Quality of Recreational Experiences

Not only would management actions prescribed in Alternative A result in a change in the availability of various recreational opportunity settings in the resource area, management actions would also affect the overall quality of recreational experiences that would be obtainable.

Primitive settings require a sense of remoteness, a vastness (size), and little or no evidence of human use. Currently, recreational users seek out the canyonlands and some adjoining plateau and rock outcrop landscapes of the Owyhee River system for primitive recreation experiences. In Alternative A, these lands are prescribed for mostly Class II visual resource management (VRM) where management actions would be allowed if they would only slightly affect the naturalness or scenic quality of the landscape. Recreation management actions identified in Alternative A affecting VRM Class II areas include short portage trails around two rapids on the East Fork Owyhee River (Owyhee Canyonlands SRMA) and the foot/equestrian trail system in the North Fork Owyhee River watershed (North Fork Canyon and North Fork Owyhee Backcountry SRMAs). Projected increases in recreation use on the East Fork would not be enough to cause substantial adverse effects to naturalness, aesthetic qualities, or solitude opportunities in the river canyon, except at isolated areas of concentrated use, such as the rapid portages. Increased levels of recreation use are projected to produce unsightly, random, unstable trailings around the rapids. Construction of one good maintained trail would prevent this. The foot trails along the North Fork would be constructed to not adversely affect naturalness or scenic values for which primitive experiences are dependent. There are currently no maintained trails in the resource area except the short (one-eighth mile long) Jump Creek Trail. By developing foot access into the North Fork system there would be a greater diversity in the type of nonmotorized experiences available in both primitive and semi-primitive settings.

Other recreation management actions pertaining to development and maintenance of recreation facilities (campgrounds, picnic areas, trailheads, and foot/equestrian trails) in semi-primitive motorized and roaded natural settings would provide increased choice in access opportunities without substantially affecting the natural or aesthetic character of the landscape, but would contribute to increased site-specific recreation use. The affected semi-primitive and roaded natural settings would generally be managed as VRM Class II and III areas. Some modifications of the natural landscape would be permissible within these ROS and VRM classifications, particularly if they enhance recreation opportunities. Trail and campground/picnic area developments, such as the North Fork and Jump Creek Recreation Sites, would improve nonmotorized access into rugged canyon areas, giving access to many who would otherwise not have an opportunity to experience these settings. Such facilities tend to promote localized increases or concentrations of recreation use at a rate greater than for undeveloped sites, demanding a greater managerial presence.

Projected increases in visitor use would not adversely affect the quality of recreational experiences through the year 2015 by causing a sense of crowding or by contributing to deterioration of the natural landscape, except in the Owyhee Front. Rapidly increasing use of the Owyhee Front would hamper BLM's ability to reduce or prevent resource deterioration of undeveloped sites on an overall basis. Localized vandalism and unauthorized OHMV use would likely remain the principal cause of resource deterioration and facility damage at already developed sites such as Jump Creek and the off-highway vehicle trailheads. Alternative A would allow for additional developments, however, it would not provide for direction as to specific locations or purposes for sites in the Snake River GRA (Owyhee Front). In the remainder of the resource area, existing developed sites, and development of several small additional sites, would be adequate to meet recreational demand through the year 2015.

On the Owyhee Front, Alternative A would not provide direction in managing for the protection of equestrian opportunities. Equestrian use has increased dramatically in recent years. Currently equestrians are seeking the more isolated semi-primitive motorized settings of the Owyhee Front to conduct mostly day-use horseback riding activities. There is also some regular use of isolated semi-primitive nonmotorized settings and a remnant primitive area (upper East Fork Sinker Creek area). As more OHMV use occurs, it would become increasingly more difficult for a quality equestrian experience on the Owyhee Front. The situation is becoming more acute as unauthorized use of livestock and game trails is leading to development of new OHMV trails in areas now used by equestrians. This situation is notable in the Hardtrigger area where horseback riding activities appear to be most concentrated.

OHMV designations are intended, in part, to protect the existing recreational settings by preserving the natural and aesthetic character of select landscapes in the face of ever increasing numbers of recreation users. The "Limited" designations prescribed in Alternative A would generally help preserve the quality of existing OHMV experiences while preventing degradation of nonmotorized experiences. While the actual number of users by the year 2015 would not be detrimental to recreational resources as a whole, unrestricted OHMV use on 420,493 acres of "Open" lands could result in the continued generation of new motorcycle/ATV and jeep trails that would change the landscape that many different recreational users come to enjoy.

With the continuation of current management in Alternative A it is projected that the size and extent of the existing OHMV trail system in the more intensively managed Owyhee Front SRMA would remain about the same. Increased use of the existing trail system on the Owyhee Front is causing increased trail maintenance and contributing to unauthorized development of some new trails, widening of existing trails, formation of moguls, conversion of motorcycle/ATV trails to jeep trails, and the need to close and re-route some trail segments. The recreation user is responding to these conditions by encouraging the BLM to authorize new trails along the Owyhee Front, extending their OHMV experiences southward into the Owyhee Mountain Range (particularly in the Silver City area), or by being displaced to other areas of southwest Idaho. The southward push is resulting in increased use of the existing network of dirt roads and jeep trails in the Jordan Creek GRA and the formation of unauthorized OHMV trails along what were once historic livestock or game trails. This expansion of OHMV activity will likely continue.

Alternative A would provide additional range improvement projects at a level similar to that experienced between 1981 and 1991. New projects are projected to include increased emphasis on pasture fences and riparian exclosures. Each of these projects affect the free-roaming experience historically provided on public lands. Cattleguards would help mitigate the loss of quality in the motorized free-roaming experience, yet recreationalists involved in both motorized and nonmotorized activities would find their access along stream channels and to spring sites inhibited by more riparian exclosure fences. Overall, the free-roaming recreational experience within the Owyhee Resource Area would continue to be adversely affected to a slight or moderate degree.

A number of fence gates define legal divisions between Federal and private properties where the public has no right of passage. Many of these gates can be locked, particularly during the hunting season. Land actions (acquisitions of easements or free title, and exchanges) in Alternative A have the potential for providing some public access where locked gates or signing prevents access to large blocks of public land.

Impact analysis for riparian resources in Alternative A indicates that the riparian objective would be met on only 4% of the riparian miles. Grazing systems and associated riparian exclosures to manage livestock grazing would not be sufficiently effective in producing a notable improvement in riparian conditions. Without improved riparian habitat conditions, terrestrial wildlife populations are more susceptible to the natural adverse effects of cyclic climatic conditions which influence population stability. Similarly, static riparian conditions would not be conducive to improved aquatic wildlife (fishery) populations. However, the vegetative treatments identified for upland areas could help retain or somewhat increase huntable populations of mule deer, antelope and sage grouse by increasing forage availability and improving forage/cover ratios. In summary, Alternative A could result in some increase in the overall hunting opportunities now available while fishing opportunities would remain about the same.

Alternative A identifies treatment of about 138,600 acres with prescribed burning and woodcuts (or alternative treatment methods on about 12,000 acres) to control the spread of serial juniper or to reduce sagebrush competition with grass species on sagebrush-bunchgrass ecological sites. Such actions are intended, in part, to maintain or restore forage and forage/cover ratio requirements for wildlife, contributing to more stable wildlife populations and, consequently, higher quality hunting opportunities. However, the woodland treatments degrade the scenic quality of the landscape and, in the case of woodcutting, the landscape's natural character. Adverse visual impacts could last as long as 50 years depending upon the age class of serial juniper stands being treated (see visual impact analysis). During this period, the quality of recreational experiences would be diminished. Treatments would be concentrated in the Jordan Creek geographic reference area and northern portion of the Owyhee River geographic reference area within mostly VRM Class III and IV areas. Numerous treatments in this region through the year 2015 would have a cumulative effect on the quality of recreational experiences of all types within predominately primitive and semi-primitive motorized and nonmotorized settings, and, to some extent, roaded natural settings. Woodland treatments could reduce the amount of acreage in primitive settings within the area from 13% to 10% if nonsuitable WSA lands are eventually released from the Wilderness IMP. In semi-primitive motorized settings, reduced natural and scenic character may be tolerated more readily by hunters (a primary user group) in light of stable or improved game populations. Those using roaded natural settings along such roads as the Owyhee Uplands National Back Country Byway would have their recreation experiences most affected because the sightseeing and driving for pleasure activities sought on these roads are highly scenic dependent. In time (25 to 50 years), visual effects of treatments would be largely gone and the quality of recreation experiences restored or enhanced. Reburns of treated areas are projected to occur on a regular basis. However, reburns would have minimal visual impact after several growing season because larger trees would generally not be involved, thereby having little long-term effect on recreational experiences. For prescribed burn projects affecting mostly semi-primitive motorized and nonmotorized settings found on sagebrush-grassland ecological sites outside of the woodland region, the burn and possible subsequent drill seeding would not affect visual quality over the long term, but would somewhat reduce naturalness to the detriment of semi-primitive nonmotorized experiences.

Concerns for vegetation and watershed protection in Alternative A are most likely to have some long-term effect on the availability of OHMV trails in the roaded natural and semi-primitive motorized settings of the Owyhee Front SRMA. It is projected that a number of miles of trail would eventually have to be closed temporarily or permanently to stabilize or reverse erosion caused by off-highway vehicles. Closures of entire areas could also occur. To mitigate the adverse impacts on OHMV recreation from trail closures, new trails could be considered in less sensitive areas.

Alternative A would allow for locatable and fluid mineral exploration and development activities. Most locatable mineral activities affecting recreation use are projected to be concentrated in the Silver City area and, to a lesser amount, the Owyhee Front. Mineral development in the DeLamar and Florida Mountain area would result in a change in ROS class from semi-primitive motorized to roaded natural, as well as reduce the quality of surrounding semi-primitive settings. The nature of open-pit mining, however, would preclude the public from using much of the roaded natural setting because of safety reasons during the time of mine operation. The quality of semi-primitive recreation experiences on lands immediately surrounding the mine operation would be reduced by visual and audio intrusions. For more detail on the DeLamar and Florida Mountain mineral activities, refer to the Stone Cabin Mine EIS. Additional mine sites are projected to be developed in the Silver City area, resulting in a cumulative effect on recreational experiences ranging from exclusion, restricted access, and degradation of natural and scenic quality. Other mineral activities, such as exploration for oil and gas, could also cause new roaded natural corridors and cause localized reductions in the quality of recreational experiences in the semi-primitive motorized settings of the Owyhee Front and primitive to semi-primitive nonmotorized settings in the Owyhee Canyonlands region.

To protect the high quality of primitive recreational experiences in suitable wild/recreational river canyons from the effects of potential mineral exploration and development, Alternative A recommends withdrawal of the affected lands from mineral entry. Withdrawals would affect canyon systems of the East Fork and South Fork Owyhee Rivers. The remaining eligible river segments would not receive withdrawal protection.

Should Congress not accept the BLM's national river or wilderness recommendations, the absence of such designations for lands adjoining the Paiute (El Paso) Gas Pipeline crossing of the East Fork Owyhee River could result in development of a high voltage powerline utility corridor in the Owyhee Canyonlands region. Such development would result in new roaded corridors and would eliminate or severely diminish primitive and semi-primitive nonmotorized recreation opportunities on surrounding canyon and plateau lands of the WSA complex. Development would also reduce the quality of semi-primitive motorized recreation opportunities on surrounding plateau lands (see the Owyhee Canyonlands Wilderness EIS for details).

Conclusion

Alternative A would provide for intensive management of recreation resources and recreation use on 312,801 acres in ten (10) special recreation management areas (SRMAs). Included in this acreage would be the recommendation for congressional designation of 94 miles of river canyon along the East Fork and South Fork Owyhee River as national wild and recreational rivers to afford long-term protection to the rivers' nationally significance primitive recreation values. Alternative A would also place restrictions on the use of off-highway motorized vehicles (OHMVs) on 899,158 acres to protect existing OHMV experiences and other nonmotorized recreation experiences. On the 420,493 acres of "Open" designation, indiscriminate use of OHMVs is projected to result in a steady decline in the quality of other semi-primitive recreational experiences.

Much of the resource area (44%) would remain in semi-primitive settings. In VRM Class III/IV areas, woodland treatment projects would moderately to severely reduce the quality of semi-primitive recreation experiences until affected lands have recovered (25 to 50 years). Over the long term, vegetation treatment projects could improve the quality of recreational experiences, especially for hunters because of somewhat increased or stabilized game populations. Continued development of fences, however, is projected to contribute to a continued slight or moderate long-term decline in the quality of the free-roaming recreational experience found in semi-primitive settings.

Within VRM Class III and IV areas, and eventually in VRM Class II-IMP areas, recreation opportunities would shift from primitive to semi-primitive motorized or nonmotorized settings because of woodland treatment projects. Burn and seed projects on sagebrush plateau lands could reduce the quality of semi-primitive nonmotorized experiences. There is also the potential for reductions in the quality of primitive and semi-primitive recreation experiences from energy exploration and development should wilderness or wild river designation not occur along the East Fork and South Fork Owyhee River.

VRM Class II areas prescribed in Alternative A would generally protect existing recreation settings and experiences except in areas of open-pit mining (Silver City area). Mineral activities would severely reduce the quality of semi-primitive recreation experiences and result in the shift of some semi-primitive motorized recreation settings to roaded natural settings. Prescribed recreation facilities and range improvements (including limited vegetation treatments) would not seriously affect primitive and semi-primitive nonmotorized recreation settings or experiences in VRM Class II areas.

Meeting the Objectives

Objective RECT 1: Provide for off-highway motorized vehicle (OHMV) use on public lands while protecting sensitive resource values.

Off-highway motorized vehicle designations in Alternative A would not fully meet the OHMV objective because they provide for OHMV opportunities throughout the resource area yet the designations would not adequately protect sensitive resource values, particularly in the Snake River GRA.

Objective RECT 2: Provide special management attention to areas of public land with identified special recreational, scenic, and cultural values where current and projected recreational demand warrants intensive management.

The special recreation management areas identified in Alternative A would not fully contain those lands needing special attention because of intensive recreation use and conflicts with sensitive resource values, particularly in the Snake River geographic reference area. Alternative A would meet the objective in terms of protecting nationally significant recreation and scenic values associated with primitive settings in the Owyhee River GRA.

Objective RECT 3: Determine the suitability of all eligible rivers and streams for inclusion in the National Wild and Scenic Rivers System.

Alternative A would provide permanent protection on 42% of the eligible river miles in the resource area under a suitable recommendation for only the main canyon systems of the East and South Forks of the Owyhee River. Other river segments considered to have highly significant national river values would not be recommended as suitable for designation.

Objective RECT 4: Provide for high quality recreational opportunities and experiences at developed and undeveloped recreation sites by maintaining existing amenities (roaded natural, urban and semi-primitive motorized settings) and by providing new recreation sites for the public's enjoyment, with emphasis on roaded natural and semi-primitive motorized settings.

Alternative A would provide for developed recreational experiences at existing sites throughout the resource area but would establish only minimal direction in the development of new recreation sites, except those associated with roaded natural and primitive settings in the Owyhee River GRA. Alternative A would not adequately address the need for recreation site development in the Snake River GRA where recreation use is projected to be most significant during the next 20 years.

Objective RECT 5: Develop a trail system that provides a range of motorized and nonmotorized recreation opportunities for the public's enjoyment of primitive, semi-primitive nonmotorized, semi-primitive motorized and roaded natural settings.

Actions identified in Alternative A would not meet this objective because of inadequate recreation facility (trail) development in the Snake River GRA to deal with increasing recreation demand for more diverse recreation opportunities.

Objective RECT 6: Pursue increased public access opportunities in motorized and nonmotorized settings through the acquisition of fee titles or recreational easements (willing landowners only).

Alternative A would fully meet this objective.

Objective RECT 7: Retain at least 10% of the Owyhee Resource Area in a primitive recreational opportunity (ROS) setting.

Alternative A would meet this objective by providing long-term protection to existing primitive settings found on 10% of the resource area.

WILDERNESS

Change Agents

Vegetation treatments, fencing, water developments, OHMV activities, recreation facilities, utility corridors and locatable and fluid mineral activities.

Impact Analysis

The 294,740 acres of wilderness study areas (WSAs) in the resource area (see Map WNES-1) are required to be managed under BLM's Wilderness Management Policy (IMP) to protect their wilderness characteristics: naturalness, and outstanding opportunities for primitive recreation or solitude. The IMP prohibits taking any action considered to adversely affect a WSA's suitability for congressional wilderness designation. An action is considered an impairment of wilderness suitability if: 1) it individually, or when considered collectively with other existing human imprints, makes the imprints of man substantially noticeable to a casual observer in the WSA as a whole, and/or 2) the action reduces the value of the WSA for wilderness as compared to other land uses. No actions have been identified in Alternative A which would impair wilderness values on WSA lands.

In Alternative A, as with all other alternatives, the recommendation for congressional designation of 195,980 acres of public lands as wilderness is being carried forward. Within this acreage are 3,890 acres of non-WSA, Section 202 FLPMA study lands which have also been recommended for wilderness designation. Unlike WSA lands, Section 202 study lands are to be protected only from unnecessary and undue degradation under authority of Section 302 of FLPMA. No actions which would cause unnecessary or undue degradation have been identified for Section 202 lands in Alternative A.

Should Congress designate wilderness, those areas would be managed under the BLM Wilderness Management Policy (September 24, 1981) to preserve and enhance wilderness values. Management for specific wilderness areas would be determined through development of wilderness management activity plans which are generally required to be submitted to Congress within two years after wilderness legislation. The Owyhee RMP does not give specific direction for management of potential wilderness areas and the environmental consequences of wilderness designation are not presented in this document. The environmental impacts from wilderness designation were presented in the Owyhee Wilderness Plan Amendment EIS and the Owyhee Canyonlands Wilderness EIS. The impact analysis in these documents reflects possible management scenarios for wilderness areas prescribed by the BLM Wilderness Management Policy. Some site-specific actions relating to recreation management which were identified in the two wilderness EISs regardless of the outcome of congressional action are being carried forward in the Owyhee RMP (see the recreation management actions in Chapter 2).

The Owyhee RMP does provide direction for management of public lands affected by WSAs should Congress not designate wilderness areas. This direction is given through the identification of various visual resource management (VRM) classifications and off-highway motorized vehicle (OHMV) designations. Alternative A provides for interim classification of 124,810 acres as VRM Class II-IMP and 109,140 acres designated as OHMV Limited - Level 4-IMP(0). These classifications and designations identify the level of development and uses allowed under the BLM Wilderness IMP for WSA lands which have been recommended as nonsuitable for wilderness designation, and what less restrictive management would be allowed if the lands are released from the IMP by Congress. The remaining IMP lands would be protected over the long term with more restrict VRM classifications and OHMV designations.

VRM Class II areas are intended to retain the natural character of the landscape with the imprints of man substantially unnoticeable to the casual observer: the general principal guiding the IMP. Upon congressional release from the IMP, affected VRM Class II-IMP lands would become VRM Class IV areas. In this visual classification, a broad range of rangeland projects (livestock, wildlife and watershed) could occur. Rangeland management actions would occur in the nonsuitable Juniper Mountain WSAs in Alternative A. Alternative A identifies clear-cutting seral juniper woodlands in order to restore grass, forb and shrub species to sagebrush-grassland ecological sites. New fences and spring developments are also identified. Stream channel stabilization projects, which involve lining streambanks with juniper trees, could also occur. New roads and jeep trails would be generated as a result of woodland cutting projects. The OHMV Limited - Level 4-IMP(0) designation would allow for the continued use of some of these new vehicle routes as well as cross-country travel. Overall, at least 12,900 acres of public land in the Juniper Mountain WSA complex would have substantial losses of wilderness characteristics. Naturalness and outstanding opportunities for solitude and primitive recreation would all be affected. Details concerning the loss of wilderness characteristics in the Juniper Mountain WSA complex are discussed in the No Wilderness Alternative presented in the Owyhee Wilderness Plan Amendment EIS.

Impacts on wilderness characteristics similar to those of the Juniper Mountain WSA complex, but less extensive and severe, are projected to occur in the juniper woodland areas of the North Fork Owyhee River WSA. The North Fork WSA would retain its special recreation management area (SRMA) designation on its nonsuitable areas as well as its suitable areas should Congress not accept the BLM's wilderness recommendations. The SRMA designation would continue to be managed to VRM Class II standards and an OHMV Limited - Level 4 designation. Consequently, woodland treatment projects (with accompanying access roads and trails), fencelines and watershed stabilization projects are projected to be the minimal necessary to meet management objectives for these resources without notably altering the natural character of the landscape. Yet, the level of potential development is projected to be greater than would occur with wilderness designation where a VRM Class I standard would be imposed. In VRM Class I, virtually no rangeland development could occur. With VRM Class II, OHMV activity would be restricted to existing roads and jeep trails. However, Alternative A would allow development of new recreational access roads to trailheads within nonsuitable areas found on the southern periphery of the North Fork WSA. The trailheads would service a recreational foot/equestrian trail system that would affect both suitable and nonsuitable lands. The IMP permits trail development to enhance opportunities to experience primitive recreation activities within WSAs. Such a trail system is possible with wilderness designation, but the trail would be built to a lower standard (narrower, steeper grades and fewer bridged stream crossings) than would occur with the SRMA designation in order to minimize its visual presence on the landscape. Overall, at least 10,350 acres of the North Fork WSA would see slight to moderate losses of wilderness characteristic in Alternative A.

VRM Class II-IMP and OHMV Limited - Level 4-IMP(0) actions also pertain to peripheral plateau lands of the Owyhee Canyonlands WSA complex. For these affected WSA lands the change in VRM and OHMV management following IMP release is generally not projected to result in activities that would substantially compromise existing wilderness characteristics. If reductions or losses of wilderness characteristics occur they would likely result from the mechanical drill seeding of some lands affected by wildfires. The mechanical seeding process leaves behind a cultivated appearance to the landscape that could exist for many years. Details concerning impacts on wilderness characteristics in the Owyhee Canyonlands WSA complex are discussed in the various alternatives presented in the Owyhee Canyonlands Wilderness EIS. From development scenarios provided by the Owyhee Canyonlands Wilderness EIS, it has been estimated that as much as 32,190 acres of the Owyhee Canyonlands WSA complex in Idaho could eventually have diminished wilderness characteristics (naturalness) as a result of seeding projects over the long term.

Owyhee River ACEC/SRMA lands contained in the Owyhee Canyonlands WSA complex would be managed for VRM Class II and OHMV Limited - Level 4 in the absence of wilderness designation. On these lands there would be no BLM initiated actions contained in Alternative A which would adversely affect wilderness characteristics (see Owyhee Canyonlands Wilderness EIS). Launch site developments, road maintenance to existing standards and portage trail developments (East Fork Owyhee River) would help stabilize fragile sites that are currently concentrating recreational use. The developments would not be of a nature that would attract additional recreational use, particularly in light of the fact that access roads would be retained at their current level of construction, a condition which tends to discourages use by the general public (driving for pleasure and sightseeing).

There are two additional types of actions which could occur in Alternative A in the absence of wilderness designation that need to be noted: utility corridor development and locatable and fluid mineral activities. There is a high probability for establishment and development of an enlarged and less restrictive utility corridor along the Paiute (El Paso) Gas Pipeline which runs north-south through the Owyhee Canyonlands WSA complex just west of the Duck Valley Indian Reservation. The existing corridor is one-mile wide and use is currently restricted to underground developments only in the vicinity of the WSAs. The corridor is one of several routes which has been identified for future planning of high voltage powerlines to service interstate electrical needs of the western United States. Development of such a corridor, in the absence of wilderness or wild river designation for the East Fork Owyhee River, would severely reduce or eliminate wilderness characteristics on 10,330 to 10,760 acres of WSA plateau and canyonlands adjoining the Paiute (El Paso) Gas Pipeline (WSA ID-16-49D and WSA ID-16-52). Refer to the various alternatives presented in the

Owyhee Canyonlands Wilderness EIS for details on the Paiute (El Paso) utility corridor.

There is some potential for locatable and fluid mineral exploration and development in the Owyhee Canyonlands WSA complex. Though currently identified as having low mineral development potential, there is a low to moderate possibility of some level of exploration activity associated with geological structures within or immediately adjacent to the river canyons. Despite the "unnecessary and undue" standards required by the 3809 regulations, any customary activity of an exploratory nature into the canyon walls of the Owyhee River system could cause irretrievable and irreversible impacts on wilderness characteristics (naturalness and outstanding opportunities for primitive recreation) on at least a localized basis in a location at the heart of the wilderness complex, potentially visible to river floaters who make use of the upper Owyhee River system in the three-State area of Oregon, Idaho and Nevada. The potential for extreme degradation of naturalness in steep topographic areas from "exploration" activities has been well demonstrated by the exploration of Florida Mountain near Silver City (see visual impact analysis). For details concerning the potential impacts from mineral activity along the Owyhee River refer to the various alternatives presented in the Owyhee Canyonlands Wilderness EIS (mineral scenarios were only developed for Oregon WSA lands in this EIS because more information was available on the favorability of mineral development). As with the utility corridor development, the potential for mineral development in the absence of wilderness designation is subject, in part, to congressional action on wild river suitability recommendations for the South Fork and East Fork Owyhee Rivers. There is also the potential for exploration and development of oil and gas reserves on the peripheral plateau lands of the Owyhee Canyonlands WSA complex. These are the same lands which could be affected by wildfire rehabilitation seeding projects. According to scenarios developed for the Owyhee Canyonlands Wilderness EIS, as much as 5,100 acres of Idaho BLM lands could be at least temporarily affected by energy exploration.

Conclusion

Implementation of Alternative A would ensure the protection of WSA lands while they remain under the BLM Wilderness IMP. In the event of no wilderness designation, there is a high probability that as much as 55,440 acres of the WSA lands in the resource area would experience a moderate to substantial lost of wilderness characteristics due primarily to vegetation treatment projects. The loss could be further increased by at least 10,330 acres in the absence of alternative national wild river designations within the Owyhee Canyonlands WSA complex due to utility corridor development.

Meeting the Objectives

Objective WNES 1: Manage wilderness study areas so as not to impair their suitability for potential designation as wilderness.

In compliance with the BLM's Wilderness IMP Policy, Alternative A ensures the long-term protection of wilderness characteristics on Section 603 wilderness study lands, as well as identifies no actions which would adversely affect wilderness values on Section 202 study lands.

Objective WNES 2: Following any enabling legislation, manage designated wilderness areas to ensure an enduring wilderness resource.

Alternative A is applicable to the Owyhee RMP only after congressional wilderness designation of select Section 603 and 202 study lands in the resource area. Any activity plan required because of wilderness designation would have to have the protection of wilderness values as its primary objective.

VISUAL RESOURCES

Change Agents

Vegetation treatments, fencing, water developments, watershed stabilization projects, wildlife guzzlers, recreation facilities and OHMV activities, locatable and fluid mineral activities and utility corridors.

Impact Analysis

Alternative A prescribes managing all public lands in the resource area under one of four visual resource management (VRM) classes ranging from VRM Class II to Class IV as shown below (see

Map VISL-A).

VRM Class	Acres
VRM Class I:	0
VRM Class II:	298,376
VRM Class II-IMP:	124,810
VRM Class III:	146,881
VRM Class IV:	749,584

VRM Class II would be the most restrictive class in Alternative A where the intent is to retain the natural character of the landscape. Class IV would allow substantial changes to the characteristic landscape. These classifications are defined in detail in Appendix VISL-1. Alternative A would not allow for any VRM Class I areas where pristine natural conditions would be preserved in the absence of wilderness designation. Wilderness study areas (WSAs) are to be managed under the BLM Wilderness Management Policy (IMP) to preserve their wilderness characteristics, including naturalness. Under the IMP, WSA lands are managed so that the imprints of man remain substantially unnoticeable in any given WSA as a whole. This is the intent of VRM Class II management whether a WSA is present or not. Class II allows for maintenance of existing facilities and, as of September 30, 1990 (Idaho), prohibits additional surface disturbing projects within WSAs. The IMP encourages preservation of WSAs, or portions of WSAs, where pristine conditions exist. The association between IMP for wilderness resources and VRM Class objectives is discussed in detail in the wilderness impact analysis. In summary, impacts on the scenic quality of WSA lands would not be impacted in Alternative A as long as the IMP stays in effect. If WSA lands are released from the IMP, the visual quality of some WSA lands would be affected in the same manner as projected below for the various project developments identified in the three VRM classes in Alternative A.

Visual impacts would be most extensive from the implementation of vegetation treatment projects in VRM Class II, III and IV areas. The degree and longevity of visual impacts from such projects is dependent upon the type of vegetative community involved.

Vegetation Treatments

In the juniper woodland communities (predominantly in the Jordan Creek and the northern half of the Owyhee River geographic reference areas), visual impacts would occur from prescribed fires in seral juniper stands and harvesting seral stands for fuelwood. Alternative A prescribes burning up to 121,600 acres over the next 20 years, about 6,100 acres per year. Much of this (55,700 acres) would be within the juniper woodland communities. In addition, commercial harvesting of juniper fuelwood is approaching 600 acres per year and could approach 1,000 acres per year by the year 2000. Cutting and burning could affect many of the fuelwood harvesting areas.

Within harvest areas, during the cutting period and for a number of years afterwards, the scenic quality of affected clear-cuts would be substantially reduced by a nearly continuous scattering of slash piles, numerous stumps about 8 inches in height, and constructed roads and jeep trails. The textures and colors of clear-cut areas would contrast sharply with those of surrounding woodland communities or the remanent sagebrush-grassland communities. However, the general shape or form of the clear-cut openings and the line defining them would mimic that of natural openings found throughout the woodland region. As a result, the adverse impacts on visual quality would diminish as the viewing distance increases. Once the viewing distance reaches several miles (beyond foreground viewing) and the presence of slash is not readily discernible, the visual impact would be minimal. As the clear-cuts regain an abundance of new understory vegetation (grasses, forbs and shrubs), and needles and bark fall from slash piles, the casual observer would not be readily able to distinguish between natural openings and clear-cuts. Mitigation of visual impacts for projects located in the background (generally greater than 3 miles) could be hastened through the use of post-cut prescribed fire. The fire would add a temporary (3 to 5-year) adverse impact on the landscape by blackening it, but would remove the contrasting cutting debris.

The duration of adverse impacts from a woodcut site viewed within the foreground (usually less than three miles) would be dependent upon whether the site receives a post-cut prescribed burn. Burns would generally occur from 2 to 5 years after tree harvesting. As with background viewing, the fire would generate its own adverse impacts on visual quality by adding a sharply contrasting black color to the landscape, yet would eliminate the effects of slash piles. With the aid of wind, rain, snow and natural or planted revegetation, the visual effects from the blackened ground would disappear within 3 to 5 years. Only blackened stumps would remain as a reminder of the woodcutting. The stumps could remain for 20 years or more with their visual presence only being lessened by the growth of surrounding shrubs that provide screening. In the absence of a post-cut fire, which is projected to occur about 25% of the time, slash and stumps would be visible well beyond 20 years with stumps lasting 50 years or more.

With cutting and post-burn effects lasting from 10 to 50 years, and cutting projected to occur at a rate of about 600 to 1,000 acres or more per year, it is highly probable that juniper fuelwood harvesting could contribute to reduced scenic quality on about 17,000 acres by the year 2015. At that time, about half of the acreage (8,000 acres) would retain the severe, short-term adverse visual impacts projected while the remaining acreage would be in varying stages of recovery.

In juniper woodland communities where only prescribed fire would be used, the effects of fire on visual quality would also depend upon viewing distance as well as the size of the trees involved. When viewed from the foreground, burned areas would contain numerous charred to partially charred tree skeletons and blackened earth and rock. Visual quality would be severely degraded by contrasts in line, form, color, and texture. The larger the trees involved, the greater the visual degradation would be. Partially burned trees could retain reddened dead foliage for 3 to 5 years. The reddish color may be seen for several miles, well into background viewing areas. Only after the needles have dropped would trees in close-background areas become indiscernible on the landscape. The presence of burned background trees would also be lessened as the blackened bark falls away to leave a light grayish wood color not readily detectable behind a back drop of sagebrush-grassland communities. This process could take more than 5 years. As in the foreground, burned larger trees would have more of a visual impact in the background areas by requiring greater viewing distances before becoming indiscernible. Foreground viewing of barkless tree skeletons would remain for as long as 50 years or more depending upon the size of trees burned.

Assuming at least a 5-year period before fire evidence would be reduced, and assuming that 2,800 acres of juniper woodlands would be burned each year independent of woodcut areas, it is highly probable that there would be as much as 14,000 acres of woodland landscape showing the more severe adverse visual impacts from prescribed fire each year. By the year 2015, the woodland communities could cumulatively show another 42,000 acres of residual burned skeleton forests having a lesser adverse impact on visual quality. In summary, it is highly probable that as much as 56,000 acres would have some degree of visual degradation by the year 2015. Since prescribed burning would be done annually to control the juniper woodland community, visual impacts from burning would always be present. However, over time the degree of impact would lessen because reburns would be affecting smaller and smaller age and size classes of encroaching seral trees.

In those areas where prescribe fire would affect sagebrush-grassland communities, the visual impacts would be minimal and of short duration. Prescribed fires in these plant communities would eliminate old-age sagebrush and return the ecological site to an earlier successional stage. This would leave a vegetative mosaic of open grasslands intermingled with remanent stands of big sagebrush on deeper soiled swale sites or low sagebrush on shallower, often stony, low ridgeline sites. This intermingling of line, form, color and texture caused by the variety of vegetation and rocky soil profiles, often including low, meandering bedrock ledges or plateau breaks, would be considered more scenic than a homogeneous landscape of sagebrush. The adverse effects of fire in the sagebrush-grassland communities would come immediately after the fire, and for the following one to three growing seasons when the blackened evidence of the fire persists. The fires would leave behind few vegetation skeletons. Those present would be small (sagebrush) and would be rapidly broken down by livestock and wildlife passage, wind, rain and snow. Because of the rapid recovery of visual quality on sagebrush-grasslands, and the relatively small amount of acreage to be burned at scattered locations, prescribed fire is not projected to be a major contributor to the cumulative impact of vegetation treatments on scenic quality in the resource area.

Cumulatively for burning and cutting, it is projected that more severe adverse visual impacts would occur on a total of 22,000 acres per year after the year 2015. An additional 50,000 acres would show a lesser impact due to natural recovery. These impacts would occur predominantly in juniper woodland communities. This acreage is about 28% of the woodland communities. There is currently no way to quantify how many acres of viewshed would ultimately be affected, either as foreground or background, by vegetation treatments. But given the type of topography and vegetation present, and the subsequently large viewsheds possible for any treatment site, some type of treatment site, whether detected as such or not, would be visible from nearly any observation point on over 50% of the woodland region. Without the limitations placed on treatments in VRM Class II areas, this percentage could exceed 75%.

Alternative types of vegetation treatments (chaining or chemical spraying) would produce effects similar to those associated with cutting and burning. In the case of spraying, blackened trees would be absent yet reddened foliage and tree skeletons would persist. Chaining would uproot trees rather than leave behind stumps.

Fencing

Alternative A sets standards for construction of range improvements to address public sensitivity to certain areas by establishing VRM classes. In VRM Class II areas, new range improvement projects should be less than those allowed in VRM Class III and IV areas in order to retain an essentially natural landscape. Existing projects would be reconstructed, if necessary, to meet a higher visual standard at the time of scheduled or required maintenance. Placement of fencelines across landscapes to exclude livestock from wetlands or to delineate and administer allotments and pastures would not directly affect visual quality, particularly in woodland areas. The fences would generally be unnoticeable on the landscape from short viewing distances. What would become noticeable would be the jeep and livestock and game trails which would eventually parallel one or both sides of the fenceline, and the differences in forage utilization that could result from differential levels of livestock use. The jeep trails would result from fence maintenance or off-highway vehicle recreation activities. These features could become substantially noticeable in what may have been an otherwise natural landscape. These effects are quite noticeable in the Owyhee Front SRMA where extensive OHMV use occurs and numerous miles of fence were constructed in the 1980s. Differences in forage utilization across fencelines can also produce a line separating the same vegetative community into two distinctively contrasting colors brought about by differences in the amount and type of forage consumed. The same effect, but more severe, can be caused by fenced seedings. There are examples of this throughout the resource area, particularly along fencelines which delineate boundaries between Federal, State and private lands as well as highway rights-of-ways.

Stream riparian and spring development exclosure fences can cause both beneficial and adverse impacts on visual quality on a localized basis depending on location. These fencing projects usually include an exclosure fence to exclude livestock from the riparian area, a headbox buried beneath the ground to trap water, and a buried water pipe that extends outside the exclosure to a trough (usually green). Construction would result in minimal surface disturbance and lead to an overall improvement in vegetative cover within the exclosure. Lush riparian communities add to the visual quality of the landscape through increased diversity in line, form, color and texture, as well as contribute to increased water which reflects color. However, the physical isolation of riparian areas from livestock use can also contribute to concentrated trampling and removal of vegetation outside the exclosure fence. In Alternative A, there is the potential for turning a number of viewsheds into ribbons of lush, green riparian vegetation bordered by livestock and game trails along the exclosure fences, thus generating lines and forms that would not be in harmony with natural features. There is the potential to create "boxes" of riparian landscapes that could affect viewsheds along water courses. To mitigate this visual impact in sheer-walled canyon areas of the Owyhee River GRA, fences could be placed among the sheer topographic breaks that surround the canyons. Elsewhere, mitigation would be more difficult in predominately V-shaped drainages because fences would generally have to be placed in the bottomlands adjacent to the riparian areas, forcing livestock and game to trail along the fencelines. In these areas fences could be constructed to not run in straight lines for any great distance, to not remain an equal distance from the stream course along the length of the riparian area, and to tie into prominent natural features where possible. With such mitigation, the extent of fence development in Alternative A would probably not be sufficient to substantially alter the overall characteristic natural landscape of the resource area.

Livestock Reservoirs

As with fences, livestock water impoundments (reservoirs) can be designed to reflect concerns over visual quality depending upon the affected area's VRM classification. A higher visual standard would be achieved by emphasizing the use of line and form in the layout and construction and reconstruction of earthen dams. These two elements of the natural landscape would need to be mimicked during construction of the dam and impoundment area in order to successfully blend a reservoir into the natural landscape. Generally, the blending would require the use of curved lines to define a crescent-shaped, shallow-sloped dam form (the dam slopes to be of equal or lesser gradient than surrounding topography that defines the stream channel or draw). Such a dam would appear as a "natural" extension of surrounding topographic relief and would assure that the surface area of the impounded water appears as a small circular, oval or "teardrop" lake formation that harmonizes with the surrounding landscape characteristics. The presence of surface water would enhance the scenic quality of landscapes.

Restoration of native vegetation around the reservoir site could also lessen the visual impact of dam construction and surrounding surface disturbances by restoring the original landscape elements of color and texture. However, reservoirs, by their very purpose, concentrate livestock use which inhibits or prevents vegetation restoration. Vegetation restoration would also be difficult when borrow pits are used to construct dams. Borrow pits remove A and B soil horizons, leaving behind soil substrates that would be generally unsuitable for vegetative growth. These exposed substrate areas would not only reduce revegetation potential but usually would have a notably different color than surface soils which would make the dam site highly visible at greater viewing distances even though line and form standards would be met for the dam itself. Consequently, in VRM Class II areas, the use of dam building materials from outside the water impoundment area would be prohibited.

In VRM Class III areas, reservoir construction could occur without restricting numbers and attempts would be made to construct dams to the standards required in VRM Class II areas. Borrow pits could be used with discretion and top soils would be set aside to recover the pit area. In VRM Class IV areas, reservoirs could be constructed using more conventional methods with dam faces at 2:1 slopes (vertical:horizontal), straight lines defining the front of the dam as well as the water line behind the dam, and the use borrow pits. Such methods could introduce unharmonious straight, vertical or steep diagonally lines and "sharp" forms into the desert plateau landscape comprised of horizontal straight lines and subordinate curved or wavy lines and "soft" forms. However, in steep, mountainous terrain or draws, steeper diagonal lines and sharper forms may be appropriate to mimic terrain features. Since most of the resource area would be in VRM Class IV, this type of construction could continue to be the rule rather than the exception. However, there is currently a policy to build all new reservoirs to Class II standards whenever possible, allowing for deviation to the Class III and IV standards where necessary because of specific physical site constraints.

Pipelines

Water pipelines extending for many miles from the water source are often found in association with spring developments and wells. There is technology available to keep surface disturbances associated with laying pipelines to a minimum in deeper soil types. In shallower, rocky soils, bulldozed trenches could be required, thereby enlarging the linear disturbance which contributes to color, texture and line disharmony on the landscape. While disturbances could readily heal in many areas within 5 years, the pipeline would often parallel a maintenance road that would perpetuate the visual impact of the pipeline. The troughs used on pipelines would not be obtrusive, but could lead to the localized loss of vegetation from concentrated livestock use, somewhat reducing visual quality.

Watershed Stabilization Projects

Watershed stabilization projects would be used to secure eroding streambanks and prevent further erosion in side slope gullies, usually the result of concentrated grazing by livestock and recreation use. The projects would use unlimbed juniper trees to line stream channels (attached by steel cables) and rock gabion dams or wooden planks. Initial placement of these projects would include disturbance to riparian vegetation and soil areas or, in the case of juniper structures, would leave the stream lined with numerous, unsightly dead trees and an occasional exposed steel cable. Such disturbances would be short-lived. Disturbances associated with rock gabion dams would be mitigated by riparian vegetation regrowth and channel siltation in less than 5 years. Juniper logs would become imbedded in streamsides, as intended, within 5 to 10 years. Once vegetation is restored, usually to a degree beyond that present prior to the project, the affected stream channels would show an overall improvement in visual quality. The improvement would be attributed to the increased abundance, and sometimes diversity, of riparian vegetation. Increasing riparian vegetation along canyon bottoms would enhance the overall scenic quality of the landscape by enriching it with color and texture. These efforts could also improve the year-long abundance of surface waters that would enhance visual character.

Wildlife Guzzlers

Wildlife guzzlers would consist of a fence exclosure and an encatchment system that would look like a corrugated, square to rectangular piece of roofing set just above ground level. Such projects would usually be associated with dry climate areas of the Owyhee Front. As such they do not release water to generate riparian vegetation screening, but sagebrush and grasses could become dense within the exclosures. To mitigate the visual intrusion of these small projects, the guzzler sites could be painted a compatible color and placed to not draw attention within the affected viewsheds.

Recreational Facilities and Activities

Existing and prescribed recreation site developments in Alternative A would be few and widely scattered and generally would not affect scenic quality of the resource area as a whole. Recreation sites would be designed to reflect concern for the four basic elements of the characteristic landscapes found in their viewsheds; form, color, line and texture. The Owyhee Front OHV Trailheads and Jump Creek Recreation Site facilities would alleviate OHMV-generated soil damage, public health and sanitation concerns, and excessive soil damage caused by indiscriminate foot trailings in sensitive vegetation communities. All these factors are contributing to a decline in visual quality at frequently used recreation sites. Recreation site developments similar to the North Fork Campground that could occur in Alternative A would reduce visual damage to recreation sites from concentrated recreation use as more and more people venture into the Owyhee Uplands plateau.

The foot/equestrian trail system prescribed in Alternative A for the North Fork Owyhee River region would allow increased public opportunities to experience the exceptional scenic qualities of the Owyhee Uplands plateau. At the same time, this development would result in both initial construction impacts and localized visitor use impacts. Initial impacts would include construction of trails along (lower North Fork) or across (upper North Fork) river channels currently unaffected by any development. Trails would average 2 to 4 feet in width, have longitudinal gradient objectives of 10% or less, and have constraints on the frequency of bridge crossings. Such trail characteristics would produce a trail system that would have minimal effects on visual quality. Vegetative screening from juniper woodlands and moderately dense to dense riparian communities coupled with careful location of necessary trail switchback areas (nestle behind rock escarpment) and bridge crossing (keep one bridge out of sight of the other) would keep the trail substantially unnoticeable on affected landscapes as a whole. Recreation use of the trails would result in localized trampling of vegetation and soil compaction at popular primitive campsites, leading to localized adverse visual impacts. These impacts could be kept to a minimum by periodically resting select campsites. Without such a trail system somewhere in the Owyhee Canyonlands to help manage recreation use, there is a moderate to high probability that unregulated foot traffic associated with increasing backpack use would eventually develop indiscriminate trailings along the river corridors similar to those present in Jump Creek Canyon. Monitoring of the portage trails around several rapids on the East Fork Owyhee River suggests that it would take a relatively small amount of recreation use to cause a serious trailing and erosion problem of talus slopes in the canyonlands. These trailings cause considerably greater visual degradation than would a constructed and maintained trail system.

Implementation of the Owyhee Off-Road Vehicle Management Plan (1987) in Alternative A would help mitigate visual impacts by prohibiting hill climbing activities at all but the Hemingway Butte site. Under the general closure authority of the ORV Plan, closing select sites to prevent further OHMV-related visual damage is projected. Through continued public education, maintenance and enforcement under the OHMV Limited - Level 1 designation, additional hill climbing areas in the West Rabbit Creek area and the Owyhee Front SRMA as a whole would be reduced or eliminated and OHMV trails would be limited to their current extent.

Elsewhere in the resource area, the ORV Plan prescribes a more restrictive OHMV Limited - Level 4 designation in visually sensitive areas where travel would be authorized on existing or designated roads and jeep trails. However, unauthorized OHMV travel is likely to continue in some areas despite the designation. Unauthorized OHMV travel is particularly acute in the Silver City area and is growing in the Juniper Mountain and Owyhee Canyonlands areas.

Energy and Mineral Development

Exploration activities for the Stone Cabin Mine, at the upper northwest elevations of Florida Mountain on the south side of the Jordan Creek watershed near Silver City, have left behind a mountain top partially devoid of vegetation and reshaped into a series of cut-and-fill terraces. The operation would result in removal of about 135 feet of the mountain's northwest top. On the south side of the mountain, an 80-foot wide haulroad would allow trucks to haul ore material to a processing plant at DeLamar Mine. This mine has been operating as an open-pit for about 20 years resulting in removal of the top of DeLamar Mountain. Computer modeling done for the Stone Cabin Mine EIS determined that the Florida Mountain operation would be visible from 11,900 acres within the Jordan Creek watershed (VRM Class II) and another 27,000 acres of surrounding VRM Class III and Class IV lands. Though no acreage was specified in the Stone Cabin Mine EIS, the cut-and-fill of the haul road would be visible over large acreages to the southwest, as is the pit at the top of DeLamar Mountain. Impacts on visual quality would vary within the region depending upon the viewer's elevation and slope aspect. When in full view of the mining operation, impacts on visual quality would be considered to be "significant" in both the short term and long term, and would not be mitigated. Cumulative impacts on visual quality in the Snake River and Jordan Creek geographic reference areas from past and existing mining are already considered to be substantial. There is a high probability that mineral development such as that of DeLamar and Florida Mountain would occur in other nearby mountains, further degrading the scenic resources of the Owyhee Mountain Range as a whole.

While much of the Owyhee River geographic reference area is currently considered to have low mineral development potential, there is a low to moderate possibility that exploration activities could come to this region of the resource area and also cause an irreversible and irretrievable loss of visual quality. Of greatest concern are the Owyhee Canyonlands where geological structures associated with fracturing and faulting invite exploration. As with the steep slopes of the Owyhee Mountains, exploration activities which would deface the canyon walls of the Owyhee River system cannot be rehabilitated, partially destroying what is considered by many a national scenic treasure. Only wilderness designation or the wild river designations prescribed in Alternative A would ensure the long-term protection of the East Fork, South Fork and upper North Fork Owyhee River by withdrawal of public lands from mineral entry. For details concerning impacts of mineral exploration and development in the Owyhee Canyonlands, refer to the Owyhee Canyonlands Wilderness EIS.

Along the Owyhee Front, and in the Owyhee Canyonlands area, there is a low potential for the exploration of oil and gas resources. For the purposes of environmental analysis, the Owyhee RMP provides a development scenario relating to these resource uses. In both areas, the oil and gas activities would introduce a series of small facilities to explore and extract discovered reserves. On the plateau surrounding the Owyhee Canyonlands, such developments would seriously contrast with the characteristic elements of the vast, open, relatively flat natural landscape. Viewsheds have the potential to be quite large. It is projected that 5,100 acres of plateau lands would have scenic quality substantially reduced by oil and gas activities in the scenario given in the Owyhee Canyonlands Wilderness EIS. Visual impacts could not be notably reduced by alterations in facility design and coloring. Along the Owyhee Front, rolling, highly convoluted peneplain topography could be used to mitigate the developments. However, because of their vertical character as compared to the somewhat horizontal character of the natural landscape found in the Owyhee Front as a whole, some level of adverse impact on visual quality is projected in very localized viewsheds.

Utility Corridors

The Owyhee Canyonlands Wilderness EIS also provides a development scenario for a high voltage powerline utility corridor through WSAs ID-16-49D and 16-52 lying just west of the Duck Valley Indian Reservation. In the alternatives presented in the wilderness EIS there are 10,330 to 10,760 acres of WSA lands where scenic values could be substantially reduced by powerlines in the absence of wilderness designation. The impact would be caused by the introduction of large, vertical, columnar forms and vertical lines of towers as well as surface disturbances from construction and maintenance roads into a vast, open, relatively flat plateau landscape. It is projected that an additional 25,000 acres of non-WSA lands could also be affected by utility corridor development. This visual impact could be mitigated or prevented by the alternative wild river designation for the East Fork and South Fork Owyhee River.

Conclusion

Implementation of Alternative A would result in the widespread degradation of scenic quality in the woodland communities of the resource area from vegetation treatment projects. It is projected that about 28% (72,000 acres) of the woodland region would exhibit slight to severe impacts on scenic resources over the next 20 years. Affected viewsheds in the woodland region could exceed 50% of the land base. However, over the long term (20-50 years), vegetation treatments would produce a highly scenic landscape diverse in the four basic landscape elements (line, form, color and texture). Widespread visual degradation to a severe degree in also projected to occur from ongoing mineral exploration and development activities in the Owyhee Mountain Range. Range improvements combined with recreational use (mostly OHMV activity) and small scale mineral activities would cause localized slight to severe adverse impacts that would eventually contribute to an overall slight decline in the scenic quality of the resource area. Development of recreation facilities to manage both motorized and nonmotorized recreation use would cause some alteration of natural landscapes, yet would have some beneficial localized impacts on scenic quality at isolated, specific sites and areas by mitigating damage caused by concentrated recreational use.

In the absence of wilderness or wild river designations in the Owyhee Canyonlands region, utility corridor developments would be likely to cause severe, adverse visual effects on as much as 35,760 acres. Should fluid mineral exploration also come to the plateau surrounding the Owyhee River, an additional 5,100 acres could have substantial adverse visual impacts during the exploration period, or over the long term if reserves are discovered. Locatable mineral exploration in the canyonlands could also degrade highly scenic areas.

Meeting the Objectives

Objective VISL 1: Manage public lands for visual resource values under Visual Resource Management (VRM) classifications.

Alternative A would not fully meet this objective because it would not provide for any VRM Class 1 designations to protect the highly natural and highly scenic areas of the resource area. VRM Class 1 designations are essential to meeting recreation objectives RECT 1, RECT 2, RECT 3 and RECT 5.

CULTURAL RESOURCES

Change Agents

Scientific collection, mining activities, OHMV activities, livestock grazing, wildlife habitat exclosures, streambank stabilization, acquisition and weathering and decay.

Impact Analysis

Planned actions which produce adverse impacts on cultural resource sites are limited by management procedures to scientific collection and excavation, and would only occur in situations where scientific research by an accredited entity (such as a university or other research organization) is permitted. These impacts would be mitigated, however, by the compilation of scientific data which are deemed to be significant by the archaeological profession. Beneficial impacts are produced by management strategies designed to preserve scientific data for future use, or for recreational or educational use. This includes protection accorded to the Oregon Trail and the existing Guffey Butte/Black Butte, Silver City and DeLamar National Register Districts.

Adverse impacts which occur to cultural resource values as a result of the implementation of projects generated by other resource activities are generally diminished by the performance of project specific cultural resource inventories in advance of project implementation. If it appears (as a result of a cultural resource inventory) that a cultural resource site would be adversely impacted by project implementation, the project be redesigned to avoid the impact. Should this not be possible, adverse impacts would be mitigated by appropriate strategies, including scientific excavation and collection, depending on the significance of the site in question. A significant exception to this would come from projects conducted under the Mining Law of 1872. It is often not possible to respond within a reasonable time frame to potential adverse impacts caused by mining operations. The potential also exists for adverse impacts to occur from unrestricted OHMV use, and from livestock trampling, especially in riparian areas.

Impacts on cultural resource sites from minerals related actions could continue in the Lambert Table and Rooster Comb Peak areas since no ACEC designation or special management to protect cultural resources is prescribed for these high cultural resource value areas in Alternative A.

Additional adverse impacts on cultural resource values would occur from natural weathering and decay.

Beneficial impacts on cultural resource sites could occur as a result of projects generated by other resources. Wildlife exclosures could have the effect of isolating a cultural resource site from adverse impacts from livestock grazing, riparian treatment plans could benefit cultural resource sites by providing streambank stabilization, restrictions on OHMV use could lessen the effects of vandalism, and lands actions taken to block up Federal land holdings could facilitate the management of large clusters of significant cultural resource sites.

Cultural resources are fragile and non-renewable, and adverse impacts are generally cumulative through time. Therefore, short-term impacts (such as a single occasion of vandalism) could increase in severity from natural forces (erosion, etc.) so that the long-term (20 year) effect increases in severity. In alternative A, fewer than 10% of the sites known to be deteriorating from the effects of change agents would be visited to determine site condition and mitigation needs. It is probable that during this period of time many of the 444 sites known to be deteriorating would be destroyed.

Conclusion

Beneficial effects would accrue from actions taken to actively manage cultural sites, such as site condition evaluations to determine rate of deterioration, and from the implementation of cultural resource management plans for areas containing significant cultural resource sites (Rooster Comb Peak, Lambert Table, Sinker Creek). Other beneficial effects would accrue as a result of the implementation of land treatment programs (riparian, wildlife exclosures, etc.) land exchanges and recreation program restrictions on OHMV use.

Adverse impacts would occur to the majority of sites known to be deteriorating from the effects of change agents, including minerals program actions, especially in the Rooster Comb Peak area; livestock trampling, especially in the Lambert Table area; and natural forces.

The overall effect over the duration of the plan would be generally adverse.

Meeting the Objectives

Objective CULT 1: Protect known cultural resource values from loss until their significance is determined.

5 years: This objective would not be met.

20 years: This objective would not be met.

Objective CULT 2: Provide special management emphasis for the protection and conservation of significant cultural resource sites and values.

5 years: This objective would be met for Guffey Butte/Black Butte Archaeological District/ACEC, Silver City and Delamar Historical Districts and Oregon Trail; but not met for Rooster Comb Peak, Lambert Table and Sinker Creek ACEC's.

20 years: This objective would be met for Guffey Butte/Black Butte Archaeological District/ACEC, Silver City and Delamar Historical Districts and Oregon Trail; but not met for Rooster Comb Peak, Lambert Table and Sinker Creek ACEC's.

Objective CULT 3: Increase the opportunity for educational, recreational, socio-cultural and scientific uses of cultural resources.

5 years: This objective would be met.

20 years: This objective would be met.

HAZARDOUS MATERIALS

Change Agents

Land use authorizations and mining activities.

Impact Analysis

The Bureaus approach to hazardous materials management on public lands in this and all alternatives (1) seeks to prevent the generation and acquisition of hazardous wastes; (2) is intended to reduce the amounts and toxicity of wastes generated; (3) provides for the responsible management of waste materials in order to protect the natural resources as well as the people who live and work on and those who use Bureau-managed lands; and (4) provides for aggressive clean up and restoration of Bureau lands that are contaminated by waste materials.

All proposed activities on public lands would be thoroughly analyzed as to whether materials potentially hazardous to the environment and the public welfare would be affiliated with the activity. A full disclosure of all hazardous materials, their use, storage, transport, and disposal would be required prior to authorization.

The largest hazardous materials site in the resource area is the DeLamar Mine. The cyanide heap leach pond and cyanide pond are on public lands and are permitted by the State of Idaho. Large quantities of chemicals and fuels are transported over Bureau administered roadways as part of this mining operation. Operation of the Stone Cabin Mine would require additional chemicals and fuels.

Conclusion

The overall impact of Alternative A on hazardous materials management would not be substantial.

Meeting the Objectives

Objective HAZM 1: Reduce the occurrence and severity of hazardous material incidences on public lands.

This objective would be met.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Change Agents

Relevant change agents for each area are listed below. The impact analysis for each of these change agents applies to those areas where identified. Impacts on specific areas are addressed where notable. See Table ACEC-4A for a tabular impact analysis summary.

Guffey Butte/Black Butte Archaeological District: recreation use.

Owyhee River Bighorn Sheep Habitat Area: livestock management, recreation use and OHMV activities.

Boulder Creek Outstanding Natural Area: livestock management.

North Fork Juniper Woodland Outstanding Natural Area: water developments, livestock management, fencing, recreation use and OHMV activities.

Cinnabar Mountain: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and OHMV activities.

Coal Mine Basin: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and plant collection.

Hells Creek: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities and OHMV activities.

Jump Creek: fencing, fire management, fluid minerals activities, mineral materials activities, recreation use and OHMV activities.

Juniper Creek Watershed: livestock management, juniper removal, fire management, locatable minerals, recreation use and OHMV activities.

Juniper Mountain: water developments, livestock management, fencing, recreation use and OHMV activities.

Lambert Table: livestock management.

McBride Creek: rights-of-way, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use, OHMV activities and plant collection.

Pleasant Valley Table: livestock management, juniper removal, fire management, fluid minerals activities and recreation use.

Rooster Comb Peak: rights-of-way, fluid minerals activities, OHMV activities.

Sinker Creek: rights-of-way.

Squaw Creek: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities and OHMV activities.

The Badlands: rights-of-way, water developments, livestock management, fencing, juniper removal, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use, OHMV activities and plant collection.

The Tules: recreation use.

Upper Deep Creek: water developments, livestock management, fencing, juniper removal, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and OHMV activities.

Impact Analysis

Granting subsurface rights-of-way would have a short-term and potentially a long-term adverse impacts on botanical, archaeological, scenic, watershed and wildlife resources. Ground disturbance, depending on topography and soils, would cause erosion and disturbed sites could be invaded by exotic plant species. In areas occupied by special status plants, exotic plant invasion could be detrimental to the native populations. Exotic plants would also potentially alter the composition of botanical reference areas. Because of the lack of availability of native plant species for rehabilitation projects and the difficulty of re-establishing vegetative cover on some sites, subsurface rights-of-way would detract from the scenic and biological quality of some areas. Surface rights-of-way that require no ground disturbance would typically not impact botanical and archaeological resources, however scenic qualities could be adversely affected, as could some wildlife species. Impacts from ground disturbing surface rights-of-way would be similar to those for subsurface rights-of-way. Overhead rights-of-way would adversely affect scenic values and potentially raptor populations, but their impact on botanical, archaeological, watershed and other wildlife would be either short-term or absent, depending on the extent and requirement for surface disturbance.

Water developments such as springs, reservoirs, pipelines and troughs in areas recognized for their high quality or unique botanical resources (either rare plant or excellent condition communities) would adversely impact these resources on a short-term and long-term basis. Adverse impacts would arise directly and indirectly from construction (vegetation destruction, alteration, weed invasion), increased livestock concentrations (trampling, grazing), and shifting of livestock into sensitive areas (impacts on special status plants). Areas with no existing water, steep slopes and low grazing pressure would be particularly adversely affected by such actions. However, pipelines that pass through an area in order to disperse livestock could have a beneficial impact by disbursing livestock and effectively lowering use. Some wildlife species would benefit from construction of reservoirs, however the majority of the areas, with the exception of the Owyhee River Bighorn Sheep Habitat Area where reservoir construction is restricted, were not identified for wildlife resources. Forty-five spring developments, 19 reservoirs, and 3 miles of pipeline with troughs are identified in Alternative A.

Water developments typically have an adverse impact on scenic qualities by detracting from an area's natural appearance. Spring development and dewatering adversely impacts riparian vegetation, scenic qualities and wildlife, particularly amphibians and fish populations, by reducing water availability at the source and altering the habitat. While the existing policy of fencing water sources and overflows to protect the habitat would have a beneficial impact on the vegetation, watershed and wildlife, it adversely impacts scenic values.

Water developments would not adversely impact cultural values since cultural clearances would be conducted prior to any ground disturbing activity. When cultural resources are located, they would either be avoided or impacts would be mitigated.

Lack of restrictions on salt placement and grazing use would generally have a long-term adverse impact on most of the areas. Currently salt may be placed anywhere except by water, putting colonies of special status plants, representative plant communities, cultural sites, some wildlife species, and scenic viewsheds at risk in the immediate vicinity of the blocks. Changes in livestock grazing regimes that effectively increase use and subsequent trampling would potentially lower the biological diversity of the areas, as well as adversely impact some cultural resources and wildlife, special status species, and scenic qualities. Indirect increases in grazing use occur when range fires displace livestock into areas that normally receive low levels of use. Some of the areas have had little historic grazing use, often due to their steep terrain. Within or adjacent to such areas, the addition of range improvement projects such as pipelines, reservoirs, and fencing would increase grazing use and trampling impacts, by effectively extending the season-of-use.

Pasture fencing projects would vary in their impact on an area, depending entirely on their placement and subsequent changes in use by livestock and wildlife. Pasture fences could effectively increase livestock use in some areas, resulting in long-term adverse impacts on the vegetation, scenic quality, and cultural resources due to the higher concentrations of animals and potential increase in bare ground. However, the opposite could also be true. Installation of a pasture fence may eliminate or decrease livestock use of a particular area, resulting in a long-term beneficial impact due to improved livestock management. Seventy-nine miles of pasture fence are identified in Alternative A.

Exclosure fences would have a beneficial or adverse impact, again depending on their placement and to what extent they displace livestock. In general, pasture fence and wildlife exclosure construction has a direct, short-term adverse impact on the vegetation of an area as disturbance occurs but is typically minimal (no scraping of ground is permitted). Scenic qualities would potentially be lowered by poor placement of an exclosure. Long-term adverse but localized impacts would probably result from animals trailing in a narrow corridor along the fences. Exclosure fences would also have a beneficial impact on wildlife, vegetation, and cultural resources by excluding livestock. One-hundred thirty seven miles of exclosure fence are identified in Alternative A.

Western juniper is a plant community component in eleven of the nineteen areas (Owyhee River Bighorn Sheep Habitat Area, Boulder Creek, Hells Creek, Juniper Creek Watershed, Juniper Mountain, Lambert Table, North Fork Juniper Woodland, Pleasant Valley Table, Rooster Comb Peak, The Badlands, Upper Deep Creek). Of the eleven areas, juniper removal is prohibited in all or portions of seven of them (Owyhee River Bighorn Sheep Habitat Area, Boulder Creek, Hells Creek, Juniper Mountain, Lambert Table, North Fork Juniper Woodland, Pleasant Valley Table). The 1987 amended Owyhee Juniper Woodland Harvest Management Plan imposed restrictions on these areas for the protection of wildlife habitat, scenic or natural values, to maintain climax juniper stands, or because of their WSA status. In Alternative A, 55,00 acres of juniper are identified for burning and 17,000 acres are identified for cutting.

Juniper removal has been identified as a Change Agent for four of the eleven areas - Juniper Creek Watershed, Pleasant Valley Table, The Badlands, Upper Deep Creek. Implementation of Alternative A would essentially have no impact on the other seven areas.

Removal of juniper in Pleasant Valley Table and The Badlands would have a long-term adverse impact on the quality of these areas as RNAs and rangeland reference areas and potentially on Simpson's hedgehog cactus, a BLM Sensitive species. While the direct impacts of fire on special status plants would probably be short-term, indirect impacts caused by vegetation removal and subsequent erosion could be detrimental. It is doubtful that juniper removal by fire would be successful due to the sparseness of the understory for carrying fire, the abundance of rock, and the discontinuous juniper habitat. Because of equipment and vehicle needs, juniper removal by cutting would have a greater adverse impact on special status plant species than burning. The high scenic value of The Badlands and that of Juniper Creek Watershed and Upper Deep Creek would be adversely impacted by juniper removal.

All fire-related management actions, including suppression, vehicle use and rehabilitation, would be open and allowable. Both short-term and long-term adverse impacts would result in the event of fire management. Because of fire's role in the development of most plant communities, the interruption of this process through suppression efforts would alter the successional course. The research and educational value of RNAs would be diminished by active suppression management. Suppression would preclude the opportunity to monitor and research natural recovery of relatively undisturbed plant communities. Because many of the areas are in relatively high ecological condition, fires would not burn as intensively as in areas dominated by exotic annuals. Thus, recovery would be faster and plant communities would continue to be dominated by natives.

In forested areas, under suppression management, unhealthy trees would continue living, only to serve as a disease source for unaffected individuals, potentially leading to higher mortality and catastrophic fire. In certain areas, interruption of the natural fire process could increase juniper density to an undesirable level. The use of soil-disturbing emergency fire vehicles outside of existing roadbeds would create short-term and possibly long-term erosion problems, depending on the level of the disturbance. Vehicle disturbance would have a long-term adverse impact on natural plant community processes and potentially on special status plant species.

The absence of constraints on rehabilitation could have both a beneficial and adverse impact. Beneficial impacts would result if, for example, the area burned intensively with high loss of vegetation and native species were successfully seeded to reduce erosion, essentially helping maintain the soil resource. However, should exotic species be used, native plant recovery, including that of special status species, would probably be impeded by competitive interaction with the exotics. The composition of the plant community could be permanently altered and set on a different course of recovery than if it were allowed to recover on its own.

Although fluid mineral development is unlikely in most of the resource area because of its geology, exploration activities could occur. Exploration would have either a short-term or long-term adverse impact on scenic, wildlife, botanical, watershed, and archaeological resources. Short-term impacts would arise from the exploratory phase due to increased OHMV use and subsequent road development. Wildlife disturbance, vegetation degradation, erosion caused by ground disturbance and long-term impacts in the form of site degradation would result from most fluid mineral development projects. In existing ACECs and other special management areas where constraints are identified fluid mineral activities would have minimal or no adverse impact. Adverse impacts could be minimal or absent for fluid mineral exploration in several of the large areas (i.e. Juniper Mountain, Lambert Table, Rooster Comb Peak), where numerous access roads already exist and where potential impacts on identified resource values would be mitigated. In addition to the surface stipulations designed to mitigate impacts, portions or all of Guffey Butte/Black Butte, Owyhee River Bighorn Sheep Area, Juniper Creek Watershed, Juniper Mountain, Lambert Table, Sinker Creek, and The Tules are closed to fluid mineral activities.

Mineral material disposal would have either a short-term or long-term adverse impact on scenic, wildlife, botanical, and watershed resources in all currently undesignated areas, depending on the intensity of disturbance. Areas with high cultural values would not be adversely impacted since cultural clearances would be conducted prior to approval of any discretionary action. Areas with existing special designations would incur no adverse impacts since these areas are already closed to mineral material disposal. Adverse impacts that would occur would be similar to those for fluid mineral exploration and development. Impacts would arise from increased OHMV use, road development, vegetation degradation, and erosion caused by ground disturbance. The remoteness and difficult access of some areas would probably preclude mineral materials disposal.

Except for those areas with existing special management protection, other areas would be adversely impacted by locatable mineral activities. Exploration and development would have a short-term and long-term adverse impact on plant communities, on scenic values, on wildlife, on special status plant and animal species and on watersheds, depending on the intensity of the activity. Compared to exploration, development would generally have a longer term impact on most of these resources. While mining claims are present within some areas (i.e. Cinnabar Mountain, Coal Mine Basin, McBride Creek, Squaw Creek), locatable mineral potential is generally rated as moderate in most of them due to their geology. However, three of the areas with existing claims have experienced historic or recent mining disturbance, and their plant communities and special status plant species (smooth stickleaf, Cusick's false yarrow, barren milkvetch, Malheur yellow phacelia) would be vulnerable to long-term impacts (roads, mineral extraction, heavy equipment), especially where disturbances less than five acres in size would not require a plan of operation.

Areas recommended for special river designations are segregated from mineral entry pending a Congressional decision. Impacts on these areas in all alternatives would be beneficial in regards to potential mineral development.

Development within nine Special Recreation Management Areas (SRMA), implementation of the Back-country Byways program and construction of equestrian and foot trails would increase public use at each of these areas and potentially in adjacent areas as well. While designation as an SRMA implies intensive management while minimizing changes in the present level of natural conditions, overall long-term adverse impacts would occur in those areas within or adjacent to developed recreational sites. Guffey Butte/Black Butte, Jump Creek, Juniper Mountain, Juniper Creek Watershed, and North Fork Juniper Woodland would likely be impacted by SRMA and Back-country Byway designation. Habitat deterioration from concentrating human use would occur, both directly and indirectly, by vegetation trampling, vegetation destruction, and the unintentional introduction of exotic plant species. Displacement of wildlife species, increased disturbance and removal of cultural artifacts and impacts on scenic resources would increase with an increase in use. Impacts would likely increase over the next 20 years as population increases continue.

Designation of 94 miles of the East and South Fork Owyhee Rivers as national wild/recreational rivers would also substantially increase public use in areas that currently receive very little use. The Owyhee River Bighorn Sheep Area and The Tules may be adversely impacted by such a designation in terms of increased public use.

Both short-term and long-term adverse impacts are projected from OHMV activities. Leaving areas with an "open" OHMV designation rather than closing them to OHMV activities would potentially cause degradation of scenic, biological, wilderness, and cultural resources. Spur trails from existing roads and entirely new roads may develop, increasing erosion, imposing on scenic and wildlife values, and altering native plant communities. New roads and trails often serve as avenues for exotic plant species introductions, as space is made available for the exotics to occupy. The value of areas in good or excellent condition that are important as rangeland reference areas would be lowered. Specific areas that would be impacted include Cinnabar Mountain, Hells Creek, portions of Juniper Mountain and Rooster Comb Peak, Squaw Creek, and Upper Deep Creek.

Leaving some areas in a "Limited" OHMV designation, namely those areas with high wilderness values or bighorn sheep and special status plant and animal resources, would have a long-term adverse impact on these resources. Such areas include the Owyhee River Bighorn Sheep Area, North Fork Juniper Woodland, The Badlands, Lambert Table, Juniper Mountain, The Tules, and Boulder Creek. Road access creates the potential for wildlife conflicts, for spur roads to develop, and for degradation of scenic and wilderness qualities as recreational use in the Owyhees increases.

In all but three of the areas (Coal Mine Basin, McBride Creek, The Badlands), casual plant collection for scientific or educational purposes would have no short-term or long-term impact on biological, scenic, cultural, or watershed resources. Except for special status species (particularly cactus), collection of plants is typically infrequent enough that plant populations are not impacted. The three areas where BLM sensitive plant species occur would potentially be adversely impacted by leaving them open to collection. Ultimately, some populations could be extirpated.

Conclusion

The overall impact of Alternative A on the areas is projected to be adverse. Major contributing change agents include the continuation of current livestock grazing and salting practices, projected increases in livestock water developments, OHV use increases, habitat loss and disturbance from mining activities, increases in recreational activities, and rights-of-ways.

Meeting The Objectives

Objective ACEC 1: Designate Areas of Critical Environmental Concern (ACECs) where relevance and importance criteria are met and apply special management to protect the values identified.

This objective would not be met, as 15 areas determined to meet the relevance and importance criteria for establishment as ACECs would not receive any special management to protect their identified resources. In Alternative A, only those four areas with existing designations would receive special management protection. These areas include Guffey Butte/Black Butte, Owyhee River Bighorn Sheep Area, Boulder Creek, and North Fork Juniper Woodland.

SOCIAL AND ECONOMIC CONDITIONS

Change Agents:

Population and recreation growth, livestock grazing levels and Federal expenditures.

Impact Analysis:

Greater Idaho's population is projected to increase throughout the next 20 years. Population growth has been a dynamic force in the current economic growth in southwestern Idaho. Between 1990 and 1993, regional population has grown by 37,700 or 11.3% within the four-county region of Ada, Canyon and Owyhee Counties in Idaho and Malheur County in Oregon (Bureau of Economic Analysis, Regional Economic Information System). However, population growth has taken on new dimensions, including quality of life considerations, here in this latter part of the 20th century. Recent migration has been toward smaller urban or rural areas and away from the large overcrowded metropolitan areas. Quality of life factors such as lower taxes, less inflation, lower crime rates, economic boom and leisure and recreational opportunities are sighted as reasons for this migration trend. This has resulted in increased pressure on the public land to provide a socially acceptable mix of land uses; away from consumptive use toward more nonconsumptive or preservation and retention in the public domain. The Owyhee Resource Area will continue to see increased pressure as regional population growth from nearby Ada, Canyon and Malheur counties drives demand for alternative, and often conflicting, uses of these public land resources.

The following impact analysis is based on computer modeling of the regional economy for Owyhee, Ada and Canyon counties in Idaho and Malheur County in Oregon using Micro IMPLAN (IMpact analysis for PLANning) which performs regional input-output analysis. (See Appendix SOCE-1 for a short summary of the modeling technique used in this impact analysis.)

Increases in the number of Animal Unit Months (AUMs) permitted for livestock grazing (115,144 AUMs to 136,285 AUMs, or 21,141 AUMs) would increase the number of cow/calf pairs by 1,593 within Owyhee Resource Area. This would be a 3.6% increase over current cow/calf pairs (based on 1987 Census of Agriculture statistics for Owyhee County). Livestock revenues would increase by $827,024 (based on $508 per cow/calf pair). This would be a positive impact on the local/regional economy by creating more output. This normally translates into more goods and services locally generated along with more employment. According to the model results, employment would increase by some 26 full time equivalents (FTE) within Owyhee County and by 37 FTE if Canyon, Ada and Malheur counties are included. Because Owyhee County has such a small labor force it is likely the majority of the workforce would come from nearby counties requiring some workers to permanently relocate. Personal income (made up of employee compensation and proprietors income) would increase by $825,000 within Owyhee County and by $982,000 if Canyon, Ada and Malheur counties are included. However, income multipliers for Owyhee County are not large, therefore, dollars earned within Owyhee County would not be projected to remain very long prior to escaping or leaking out of the area through purchases from the intra-region or inter-region.

In addition to an increase in final demand for range fed cattle (the increase for products from the range fed cattle sector—i.e. the additional livestock that can be fed and sold due to an increase in available forage on the public lands; the ultimate consumers of commodities - both goods and services), there would be an increase in Federal funds expenditures to construct range improvement and recreation projects within the Owyhee Resource Area (See Table SOCE-7 for cost breakdown). For purposes of analysis, this would be evenly distributed throughout the next 20 years. An increase in final demand for labor and materials for the construction and implementation of these projects would result in an employment increase of approximately 6 FTE and $180,000 in income for Owyhee County and 6.7 FTE and $267,000 in income if Canyon, Ada and Malheur counties are included. Again, the additional workforce likely coming from counties surrounding Owyhee County.

General recreation activity is projected to increase approximately 70% between 1995 and 2015. However, it is not suggested that the increased recreation activity would be in response to BLM actions, rather, the regional population growth would be the root cause of any additional recreational activity on the public lands in the planning area.

Total regional economic impact on Owyhee County from changes in livestock grazing activity, Federal employment, and wholesale purchases of project materials is estimated to increase final demand (the ultimate consumers of commodities - both goods and services) by $1,219,000 and increase employment by approximately 32 FTE and personal income generation by $1,006,000. When Canyon, Ada and Malheur counties are included these figures become $1,609,200 in final demand, 44 FTE in employment and $1,205,800 in personal income generation. Taken as a whole, this is considered to be more significant for Owyhee County (however, it is less than 1% of total output) than for the four-county region.

Population growth attributable to the increase in output of goods and services on the public lands is projected to be small. The intra-regional population is projected to increase by approximately 72 in response to the increase in final demand for goods and services. With more than 370,000 currently within the four-county region, the additional 72 would not be a significant increase.

The percent changes for Owyhee County and the four-county economic region are summarized below. See Table SOCE-A for the total regional effects. See Figures SOCE-1 and SOCE-2 for a graphic comparison of the alternatives.

	Final Demand	Total PW Income	Employment
Owyhee County	+0.75%	+0.96%	+0.96%
Four-County Region	+0.02%	+0.02%	+0.02%

Conclusion

Positive impacts are projected for the local/regional economy because of increases to regional output of goods and services, and employment. The impact is not projected to be significant enough to cause financial hardships for the local or regional infrastructure to handle increased demand. Social services and other factors that currently contribute to the quality of life locally and regionally would not be significantly affected by the small increase in population.

AIR RESOURCES

Change Agents

Prescribed burning, mining activities, national river designations, road construction, plow and seed operations and aerial pesticide/herbicide application.

Impact Analysis

A total of 440,603 acres are identified for possible prescribed burning over the next 20 years. Up to 22,000 acres per year would be treated. Individual burns would be limited to 3,000 acres. During these operations a one to two day localized decrease in air quality would occur. By limiting the size of the burn, allowing a time interval of 72 hours between burns, conducting burns when climatic factors are optimal for good dispersion, and coordinating with other air quality influencing actions in the area at the time of the burns (to reduce potential cumulative impacts), impacts from this action would not be substantial.

Mining operations have several sources of air pollutants. Sources of particulate (i.e., dust) emissions in mining operations include drilling, blasting, and ore collection in the mine pit, plus wind erosion from ore pits, ore loading into trucks, trucks moving over haul roads, and trucks dumping ore into piles, ore loading onto conveyors and ore crushing into small processing sizes, crushed ore screening and crushed ore smoothing, waste rock smoothing in waste piles and wind erosion from waste piles.

The active DeLamar Mine is currently the major source of these types of emissions in the resource area. Air quality impacts due to the Stone Cabin Mine are addressed in the Stone Cabin Mine EIS and will not be addressed in this document. Cumulative impacts of the DeLamar and Stone Cabin mining operations would have an insubstantial impact on local air quality in the area. Impacts projected from small scale mining operations would not be substantial due to the limited size and nature of these operations, although if in the same vicinity of the DeLamar and Stone Cabin sites they would add to the cumulative impact.

Designation of 66 miles of the East Fork of the Owyhee River as a national river would result in eventual withdrawal of this reach from mineral entry. This would preclude any impacts on air quality associated with mining or mineral exploration.

Impacts from road construction, plow and seed operations, and aerial application of pesticides/herbicides would result in minor short-term impacts on air quality dependent on size of the operations and adherence to best management practices during the operations.

Conclusion

The overall impact of Alternative B on air quality would not be substantial.

Meeting the Objectives

Objective AIRQ 1: Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration regulations with all authorized actions.

If proper procedures are followed and BMPs implemented the objective would be met in Alternative B.

SOIL RESOURCES

Change Agents

Livestock grazing, livestock water developments, OHMV activities, fluid mineral and locatable mineral activities, rights-of-way, national river designations and vegetation treatments.

Impact Analysis

In Alternative B, it is estimated that broad based erosion rates would remain stable with specific areas showing a slight increase. These slight increases in soil erosion would be in part due to the increase in poor range condition, particularly where perennial range species give way to annual species. See "Affected Environment" - Soil section for effects of vegetative composition and density on soil erosion. The area most affected by this increase is the Snake River Sediments and to a lesser degree the granitic mountains.

Projected livestock stocking levels and grazing management practices over a 20-year period could cause a slight increase on the broad based erosion level. Much of this depends on the success of grazing systems and vegetation treatment projects. As stated above, the area most affected would be the Snake River Sediments and the granitic soils.

Development of 86 livestock water projects would result in degradation of the soil resource at and in the general vicinity of these sites. This degradation would be in the form of soil compaction, mechanical disturbance of the soil surface by hoof action, and loss of vegetative protective cover. The probability of this occurring is high. By selecting sites that are not in compaction prone soils and adhering to established BMPs some of these impacts would be mitigated.

Impacts on the soil resource in the form of soil erosion, loss of productivity, and soil compaction from OHMV activities would increase in Alternative B. The modified "Limited" designations is projected to lead to a general increase in new trails, especially in the Owyhee Mountains, South Mountain and Juniper Mountain where OHMV activity is increasing. Impacts would continue to be substantial within the Owyhee Front SRMA and Fossil Creek OHMV management unit. OHMV use would cause mechanical disturbance to the soil surface and destruction of the protective vegetative cover (this includes vascular plants and soil stabilizing cryptogamic crusts). Mechanical disturbance from OHMV activities would result in destruction of soil aggregates, formation of channels, and a sloughing of washes. More heavily utilized trails would widen and become more deeply moguled and rutted as use levels increase. With the projected increase in casual and competitive OHMV activities, mitigating measures would be needed to protect the soil resource (especially on the highly erosive soils). Limitations on the available areas for OHMV recreation would be needed to protect lands from further degradation. There would also be better management (maintenance) of existing trails. Existing trails would be maintained on a yearly basis (i.e., water bars, contouring, reshaping) to prevent major precipitation events from causing irreparable damage. Monitoring of accelerated soil erosion (gullies and rills) would be done at specific locations to study impacts of recreational activities and aid in trail segment management decisions.

Fluid mineral and locatable mineral activities could cause substantial soil erosion (and subsequent sediment delivery and productivity losses) depending on the size and scope of the project. Access road construction, drill pad installation, mineral extraction actions, and other surface disturbing activities would be the primary causes. Impacts on the soil resource from these actions would be localized to the specific area of disturbance. The extent of these impacts would be determined by the amount of activity, advances in mining and mitigation techniques, type of operation, location, and other factors. Overall, impacts on soils attributed to mineral activities over the next 20 years is projected to increase. The Stone Cabin Mine project would cause both short-term and long-term localized erosion (See Stone Cabin Mine EIS.

Right-of-ways would cause varying degrees of disturbance. No substantial impact on soils is projected from construction of pipelines, powerlines and telephone lines after construction is finished. Roads, especially unsurfaced roads, would cause both short and long-term erosion problems.

Designation of 66 miles of national rivers would result in withdrawal of 20,960 acres of associated lands from mineral entry and avoidance of potential impacts associated with these activities as projected above in the minerals activities analysis. It would also result in strict limitations on vehicle travel and associated impacts as projected in the above OHMV activities analysis. This would result in a beneficial impact on the soil resource.

Vegetation treatments on an estimated 458,693 acres (prescribed burning 356,723 acres; burn and seed, 83,880 acres; and woodland harvest, 18,090 acres) according to established standards is projected in Alternative B. Prescribed fire would be the treatment method most often used. Other treatment methods would include chemical and mechanical. The projected acreage for chemical and mechanical treatments is about 35,000 acres over the next 20 years. Vegetation treatment projects would cause varying degrees of disturbance. This would depend on the type and size of the treatment (and, over the long term, the success). By following established BMPs, impacts from these treatments would be reduced. Soil erosion and subsequent sediment delivery and loss of productivity would be a short-term impact. After successful revegetation occurs a long-term reduction in erosion rates could occur.

Conclusion

The overall impact of Alternative B on the soil resource would be slight with some areas having a adverse impact. Broad based erosion levels would remain stable or could increase slightly (Snake River Sediments area most affected). Streambanks would be degraded where there is not an effective grazing system or protection.

Meeting the Objectives

Objective SOIL 1: Improve unsatisfactory and maintain satisfactory watershed condition on lands above 3,500 feet elevation.

It is estimated that this objective would be met on 50% to 70% of the resource area in Alternative B.

Objective SOIL 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

It is estimated that this objective would be met on 20% to 35% of the resource area in Alternative B.

Objective SOIL 3: Achieve stabilization of specific localized soil erosion problems (particularly streambanks). Reduce the potential for accelerated (human induced) erosion problems by utilizing Best Management Practices (BMPs).

It is estimated that this objective would be met for 25% to 50% of the cases in the resource area. Human induced erosion problems would be reduced only with the establishment of, and compliance with, BMPs in Alternative B.

WATER RESOURCES

Change agents

Livestock grazing, mining activities, OHMV activities and prescribed burning.

Impact Analysis

Livestock grazing impacts on water quality would not significantly change over the short term (5 years) from the current situation. Over the long term (20 years), a 14,599 (11%) AUM increase in livestock grazing would occur. As riparian condition improves, an estimated 32% (166 miles) of all stream miles would improve to support designated beneficial uses in Alternative B.

Nonpoint source mining impacts on water quality would be similar to Alternative A. Impacts would not change from the current level.

Point source mining impacts on water quality would be same as described in Alternative A. Impacts from historic mining activities would not change from the current level.

Adverse impacts on water quality from OHMV activities would increase in Alternative B. The type of impact would be the same as described for Alternative A. The number of acres with few limitations on OHMV use would increase by about 50% over Alternative A. Initially, impacts would occur primarily along the Owyhee Front, but would expand to the southern portion of the resource area over 20 years.

Adverse water quality impacts from prescribed burns would be of the same type as those described in Alternative A. Prescribed burns would occur on about 440,000 acres over the next 20 years. This would be about a 260% increase over Alternative A.

Water right claims for domestic use would be filed on unappropriated waters. Domestic use could include water for livestock and irrigation. Minimum instream flow applications would be filed on high value streams. Water rights for water development projects would not be filed.

Conclusion

Livestock grazing systems would result in long-term improvement in stream condition on an estimated 19% (97 miles) of all stream miles. Grazing systems combined with other management actions would result in 32% (166 miles) of all stream miles fully supporting beneficial uses over a 20-year period.

Meeting the Objectives

Objective: WATR 1: Meet or exceed State of Idaho water quality standards on all federally administered waters within the Owyhee Resource Area.

This objective would be met on 32% (166 miles) of all stream miles in Alternative B. This would occur primarily in allotments where grazing systems are implemented to improve riparian condition. Control of livestock use in riparian areas would result in improved buffering and filtering function, increased streambank stability, and improved stream channel shading which would all contribute to improved water quality.

Objective: WATR 2: Follow current State water rights processes and procedures to acquire water rights for beneficial uses and support establishment of instream flows which are in the public interest. File for water use rights on all unclaimed waters within one year and newly developed water projects prior to construction.

In Alternative B, domestic water use on unappropriated waters would be provided for through compliance with State water law and in accordance with State licensing processes. Protection of water for other beneficial uses would not be achieved.

VEGETATION

Change Agents

Vegetation treatments, OHMV activities, mining activities, livestock water developments, fencing, livestock grazing and wild horse management.

Impact Analysis

When any species or class of vegetation is allowed to dominate a large area, ecological diversity, forage production, and plant vigor will be adversely impacted. At the same time if one species or class of vegetation is eliminated or substantially reduced over a large area similar impacts could be projected. Prescribed burning and juniper woodcuts are tools for treating vegetation to maintain the proper mix of habitat components or to meet specific management objectives or desired plant communities within a given area. In Alternative B, 348,283 acres of sagebrush/grass communities and 110,410 acres of juniper have been identified for treatment.

Short-term impacts (2-3 years) from prescribed burns (440,603 acres) and juniper woodcuts (18,090 acres) would be adverse as vegetative structural diversity is decreased by reducing or eliminating the predominant species (sagebrush or juniper) at each site. Long-term effects would be beneficial by improving ecological diversity, ecological site condition, forage production, and plant vigor of these selected areas.

Beneficial impacts are projected for forest land biodiversity by retaining 32,600 acres of remnant Douglas-fir forests within the resource area.

Seeding 83,800 acres would adversely effect (short-term and long-term) the vegetative diversity of those areas where native species would be replaced with non-native species. Seedings would convert mid seral status range sites to treated sites. Depending on the initial success of the seeding, degree of livestock grazing, effectiveness of the initial control of woody species, and amount of maintenance performed over time, the life span of a seeding could exceed 30 years. Because some sagebrush eventually reinvades most treated sites, maintenance of these seedings could be necessary every 10-20 years to control brush and extend the life of those seedings.

Seedings could have a beneficial impact on an area if they are used to stabilize soils or to reestablish native species not projected to become established naturally. However, overall impacts on vegetation are projected to be adverse.

The Federal Noxious Weed Act (PL 93-629) defines a noxious weed as a weed that causes disease or has other adverse effects on man or his environment and therefore, is detrimental to the agriculture and commerce of the United States and to the public health. Noxious weed control would have a slight beneficial effect on vegetative diversity by maintaining the integrity of native plant communities by reducing or eliminating undesirable species. Beneficial impacts, through noxious weed control, are also projected in those areas where OHV use occurs. OHV activity has the potential to remove vegetation which then allows noxious weeds to become established at those sites.

Designating all existing historic trails as available for OHMV activity would have adverse impacts on vegetation by allowing OHMV use to occur in areas previously unavailable to this type of activity. OHMV use in these areas could adversely impact vegetation through damage to the foliage, root systems, and seedlings and uprooting of small plant cover and disruption of root systems of larger plants by sheer stress induced in the soil (Wilshire, Shipley and Nakata 1978). This disturbance would then cause loss of native vegetation, increased soil erosion, and invasion by noxious weeds.

Although most OHMV disturbance would be linear, with limited acreage affected, concentrated use areas would also adversely impact vegetation around OHV trailheads (developed and undeveloped). As the population of southwestern Idaho continues to increase it is projected that existing trails will deteriorate from increased use, causing more unauthorized trails to become established. It is also projected that OHMV activity will move south in the Owyhee Mountain range, particularly the Silver City area, causing new trails to form, leading to loss of vegetation in those areas.

Mineral activities have the potential for adverse impacts on vegetation on a site-specific basis. Impacts would be in the form of short-term and long-term habitat loss at exploration and mining locations. Refer to the Stone Cabin Mine EIS for a detailed analysis of mining impacts.

Development of 86 livestock water projects would have site specific adverse impacts (short-term and long-term) to vegetation through increased grazing pressure and livestock concentration near available water. Developing springs and pipelines could also result in reduced water availability at spring sources or streams resulting in degraded riparian/wetland habitat. These adverse impacts could be partially offset by reduced grazing on vegetation in other portions of the allotment. However, by protecting the spring source on all identified spring developments, beneficial impacts are projected through improved riparian/wetland habitat at these sites.

Construction of 30 miles of riparian/wetland exclosure fences would have beneficial impacts within these areas. By excluding livestock, these exclosure fences would allow for improvement within these riparian/wetland areas.

Construction of 101 miles of pasture division fences would have a beneficial impact on vegetation by allowing grazing systems to be implemented that could provide rest or deferment within an allotment. Additional pastures should then provide improved livestock distribution and utilization levels within these areas.

Adverse impacts are projected from these fences due to livestock trails that normally become established along fence lines and the potential for construction and maintenance roads along these fences. These roads then have the potential to become areas for OHMV activity. Overall, impacts from these fences are projected to be beneficial.

Maintaining current livestock season-of-use could adversely impact vegetation. Spring grazing has the potential to adversely impact native upland vegetation, especially in those areas in an early seral stage or located below 3,500 feet elevation as livestock use would occur during the plant's active growth and food storage phase. Although most plants are sensitive to grazing during this time period, studies have shown that bluebunch wheatgrass is extremely sensitive to grazing during active growth (Anderson, 1991). This early use has the potential to prevent substantial improvement on those range sites where bluebunch is the predominant grass species. These sites cover over 50% of the resource area.

Adjusting active preference from 136,285 AUMs to 150,884 AUMs could adversely impact vegetation. Although vegetation treatments would initially improve ecological status on approximately 169,570 acres, increased livestock use could result in declining condition on these treated sites and prevent improvement on the remaining acres not identified for any type of vegetation treatment. This impact would be mitigated since upward adjustments in active preference would not occur until monitoring data indicates that vegetative objectives would continue to be met with increased livestock use.

Impacts on vegetation are projected to be adverse in wild horse herd management areas

(HMAs) in the Snake River area as wild horses continue to graze these areas (HMA's) with no provision for rest or deferment (see previous section regarding vegetation response to early use grazing seasons). Horses and livestock would also continue to compete for available forage within grazing allotments located within HMA's. Because fences and water developments have the potential to restrict wild horse movement and move livestock into historic wild horse use areas, these types of projects may not be allowed within wild horse HMA's. Long-term impacts on vegetation are projected to be adverse based on the difficulty in constructing projects within these allotments where grazing systems are being implemented. However by maintaining wild horses at appropriate management levels (AML) within a thriving natural ecological balance this impact may be mitigated.

Conclusion

Although beneficial impacts are projected from vegetative treatments (169,570 acres) changes in ecological condition on the remainder of the resource area, especially areas in an early seral stage or located below 3,500 feet, are not projected to improve within 20 years. Factors such as climate, soils, competition from other species, available sources of seed on site, livestock season-of-use and livestock stocking levels will determine the amount of time needed to move from one seral stage to the next. Even with complete livestock removal succession can be extremely slow, sometimes requiring 20-40 years (Sanders and Voth 1983 and Tisdale, Hironaka, and Fosberg 1969).

Meeting the Objectives

Objective VEGE 1: Achieve an ecological site condition (ESC) on upland habitats on federal lands within the Jordan Creek and Owyhee River geographic reference areas and those portions of the Snake River geographic reference area above 3,500 feet elevation of at least 40% in late seral and no more than 10% in early seral stage. (Altered ecological sites such as seedings and annual range excepted.)

This objective would not be met in Alternative B. The table below outlines the projected changes in ecological status for this alternative. These projected changes were based on the prescribed burns, woodcuts, and seedings that were proposed under this alternative.

Areas above 3,500 feet elevation

Seral Stage	Baseline	Percent	20-Year Projection	Percent
Early seral	419,771	38%	410,726	37%
Mid seral	528,729	47%	343,950	31%
Late seral	143,584	13%	299,923	27%
PNC	2,224	<1%	2,224	<1%
Seeding	18,401	2%	55,886	5%
Total	1,112,709	100%	1,112,709	100%

Objective VEGE 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands.

With continued spring grazing on the Snake River area a downward vegetative trend is projected. Based on this the objective would not be met. The table below outlines the projected changes in ecological status for Alternative B.

Area below 3,500 feet elevation

Seral Stage	Baseline	Percent	20-Year Projection	Percent
Early seral	155,215	77%	157,048	78%
Mid seral	36,664	18%	30,384	15%
Late seral	0	0%	4,186	2%
PNC	0	0%	0	0%
Seedings	9,387	5%	9,648	5%
Total	201,266	100%	201,266	100%

Objective FORS 1: Manage Douglas-fir communities (about 36,200 acres) to emphasize forest health, vegetative diversity, wildlife and watershed values.

Alternative B generally meets the objective to retain forest land biodiversity, yet does not give clear direction as to the ecological values of some dead material remaining within the forest environment.

Objective FORS 2: Use juniper harvesting to help achieve a desired plant community.

Alternative B would not meet the objective of achieving desired plant communities in the resource area by controlling juniper with the assistance of fuelwood cutting as only 18,090 acres have been identified for woodland harvest within the 20-year time frame (this figure represents approximately 7% of the total acres of juniper located on federal lands). In order to meet this objective a more aggressive program is needed in order to reduce both existing and projected increased juniper woodland acres.

RIPARIAN-WETLAND AREAS

Change Agents

Livestock grazing, mining activities, OHMV activities, livestock water developments and land tenure adjustments.

Impact Analysis

Livestock grazing impacts would not significantly change over the short term (5 years) from the current situation. The type of impacts would be the same as described in Alternative A. Over the long term (20 years), a 14,599 (11%) AUM increase in livestock grazing would occur. Implementation of grazing systems designed to improve riparian condition would result in improvement on 22% (142 miles) of all riparian miles over 20 years in Alternative B.

Mining impacts on riparian areas would be the same as described in Alternative A. Nonpoint source impacts from historic mining operations would continue at the current level.

Adverse OHMV impacts on riparian areas would increase in Alternative B. The type of impact would be the same as described for Alternative A. The number of acres with few limitations on OHMV use would increase by about 50% over Alternative A. Initially, impacts would occur primarily along the Owyhee Front, but would expand to the southern portion of the resource area over 20 years.

Development of livestock water facilities would have the same type of impact on riparian areas as described in Alternative A. The change from Alternative A in the number of water developments consists of a 19 mile (633%) increase in pipelines. Reservoir and spring developments would remain the same as Alternative A.

Conclusion

Livestock grazing systems in combination with changes in grazing utilization patterns and other actions would result in satisfactory riparian condition on 36% (236 miles) of all riparian miles. The impact of grazing system development on riparian condition is shown below.

Riparian Areas (miles)	Baseline	Alternative B
Satisfactory condition	35	236
Unsatisfactory condition	239	416
Undetermined	378	0

Meeting the Objectives

Objective: RIPN 1: Improve all unsatisfactory, nonfunctioning and functional at-risk categories and maintain all satisfactory and proper functioning condition riparian lands (stream, upland wet meadow, and wetlands).

This objective would be met on 36% (236 miles) of all riparian miles in Alternative B. Implementation of grazing systems in riparian areas would result in improved buffering and filtering function, increased streambank stability, and improved stream channel shading which would all contribute to improved condition.

WILDLIFE HABITAT

Change Agents

Livestock grazing, livestock water developments, fencing, vegetation treatments, mining activities, OHMV activities, other recreation actions, special designations, reservoir enhancement, land tenure adjustments and land use authorizations.

Impact Analysis

The continuation of mid-and-late-season grazing in allotments where use of riparian habitat cannot be adequately controlled is projected to result in a large majority of both stream and upland riparian habitats remaining in unsatisfactory condition. Continuation of current mid and late season grazing practices along with an estimated 10% increase in long term stocking levels and a substantial loss of browse from prescribed burning is projected to result in increased utilization and declining vigor of remaining browse and increased competition with mule deer and, to a lesser extent, elk for the remaining browse forage. Other impacts of livestock grazing would be similar to those described in Alternative A.

The overall effect of vegetation treatments on 73,482 acres of juniper woodlands (about 29% of existing juniper woodlands) and 208,970 acres of big sagebrush habitat (35% of existing sagebrush habitat) would be to substantially increase the acreage of grassland habitat and herbaceous forage production while reducing overall woody vegetation cover, structure and browse forage. Eventual increases in vegetation diversity and browse production would occur in some treatment areas where juniper has resulted in a loss of most understory vegetation. An estimated 146 species are known to occur within big sagebrush communities and an estimated 135 within western juniper communities (Thomas and Masser, 1984). Among game species sage grouse are projected to be adversely effected by the large reduction in sagebrush habitat while mule deer and, in some cases, elk would suffer from the large reduction in all woody vegetation. Pronghorn are projected to benefit from the increase in grassland habitat, except on winter ranges where shrubs are a critical component during harsh winters. A number of other species would also benefit but the overall impact of this level of vegetation manipulation is projected to be adverse to the majority of wildlife species.

The estimated 30 miles of riparian exclosure fence would result in rapid and, in most cases, substantial improvement of habitat for a large diversity of wildlife species but would be approximately 100 miles less than that excluded in Alternative A. Benefits would be in the form of enhanced quantity and quality of forage, cover and water. This along with the additional 101 miles of pasture fence would, however, also result in additional impediments to big game movements and an increase in wildlife death losses from fence entanglement. It would also result in degraded habitat within a narrow corridor immediately adjacent to fences where cattle use and trailing is more concentrated. However, the total fence mileage and associated adverse impacts would be substantially less than that projected for Alternative A and the overall long-term impacts of fence construction are projected to be beneficial based on the improvement in riparian and, in some cases, upland habitats.

Development of 45 springs and 19 stock reservoirs (both the same as Alternative A) and 22 miles of pipeline (19 more than Alternative A) would provide some additional upland water for wildlife (approximately 19 additional troughs) but would also result in additional adverse impacts as described in Alternative A. Reservoir development could result in additional habitat for waterfowl, amphibians and a diversity of other species, especially if all or a portion of the reservoir is fenced to exclude livestock or islands are developed. However, in Alternative B, only reservoirs with a surface area of five acres or larger would be considered for fencing which would eliminate most, if not all, from consideration. The overall impact of livestock water development to most wildlife species and in most areas is projected to be adverse.

Impacts of mineral related activities including exploration and extraction of locatable, saleable and leasable minerals would be very similar to those discussed in alternative A. The only change would be within areas which would have been withdrawn from mineral entry and closed to materials sales and fluid minerals leasing in Alternative A. These include Wild and Scenic River segments and some ACECs. In Alternative B suitability recommendations for these special designations would be postponed pending further study and it is projected that fewer acres would eventually be designated as either Wild and Scenic River or ACEC. This would result in more area potentially being open to mineral related disturbance which would result in additional adverse impacts on wildlife. Both short-term and long-term impacts are projected to be adverse.

A substantial increase in OHMV activity (a projected 37% increase by the year 2000) associated with very liberal access to the entire resource area via use of existing and historic trails and sand washes would result in a substantial increase in adverse impacts on most wildlife species and habitats. In the short term, the bulk of OHMV activity impacts are projected to occur within the Snake River GRA because of its close proximity to population centers. In the long term, even though 420,493 acres would be converted from "Open" to Limited IIA category within the southern half of the resource area, adverse impacts are still projected to increase throughout the resource area as major use areas along the Owyhee front become more and more congested, due to the lack of user constraints, and people seeking a higher quality experience begin to move into these less congested areas. Alternative B would result in a steady increase in the number of acres of wildlife habitat lost or degraded by OHMV use. Allowing for the use of historic trails and sand washes areawide, along with the elimination of all seasonal use restrictions, would add substantially to the level of wildlife habitat and population disturbance. The types of impacts identified in Alternative A also apply to Alternative B.

In Alternative B, a Recreation Management Action Plan would be developed which would assess the validity of all existing SRMAs and the need for establishing any additional SRMAs. If and when existing SRMAs are released from SRMA designation they would, for the most part, be subject to increasing levels of OHMV activity, other forms of recreational use and a variety of other impacting actions which would increase the adverse impacts on wildlife species in these areas. Since no specific SRMAs or management actions were identified for deletion or addition, no specific impact assessment can be done.

As with SRMAs, Alternative B only proposes to study rivers and river segments for inclusion in the National Wild and Scenic Rivers System. No specific rivers or river segments were recommended for inclusion although specific actions were identified which would maintain continued multiple recreation uses and establish designated equestrian, foot and OHMV trail systems within river segments as they are designated. By allowing intensive recreational use within designated river segments and reducing the number of miles recommended as eligible for designation, adverse impacts in the form of wildlife population and habitat disturbance and degradation would be projected to increase substantially over the long term. California bighorn sheep, pronghorn, mule deer, nesting raptors and a diversity of other species could be effected. Short-term and long-term impacts would be adverse.

Upgrading or reconstruction of facilities at seven recreation sites and construction of foot and equestrian trail systems would likely result in increased public use at and in the general vicinity of each of these sites. Impacts would be similar to those identified in Alternative A except that special restrictions on vehicle access and special recreation permitting associated with facilities and trails within areas identified as SRMAs in Alternative A may not apply. The more liberal OHMV designations would have an increased impact within the vicinity of most or all developed recreational facilities. The result would be an increase in physical habitat deterioration and disturbance or displacement of wildlife in excess of that identified in Alternative A. Both short-term and long-term impacts of recreation facility development are projected to be adverse.

Impacts of equestrian events and guiding and outfitting services would be similar to those identified in Alternative A. Short-term and long-term impacts are projected to be slightly adverse and projected to increase over the next 20 years.

Construction of wildlife water developments and waterfowl nesting habitat improvements at reservoirs would provide the same type of benefits as described in Alternative A. In Alternative B, however, improvements (i.e. fencing, planting and islands) would be restricted to only those reservoirs exceeding five acres in size. Since it has not been determined how many, if any, of the 19 new reservoirs would exceed five acres, impacts of this action can not be determined but are projected to be minimal.

As discussed in Alternative A, land tenure adjustments to consolidate public lands through State or private exchange can have either a beneficial or adverse impact on wildlife depending upon which parcels are involved. Since no specific land tenure adjustments were identified in Alternative B no specific impact assessment can be made. However, since actions identified in Alternative A to acquire high quality wildlife habitats were not included in Alternative B, the net effect to wildlife of implementing Alternative B would likely be adverse.

In Alternative B, land use authorizations (rights-of-ways, leases and permits) would continue to have a mostly adverse impact on wildlife as habitat is dedicated to other uses. ROWs and easement acquisitions identified in Alternative B are identified specifically for motorized access, OHMV and other types of recreational access. These and most other types of land use authorizations can be projected to result in substantial, long-term alteration or destruction of habitat for a variety of wildlife species. Although most affect a relatively small area the cumulative impact over 20 years could be significant. Short-term and most long-term impacts would be adverse.

Conclusion

Alternative B depends heavily upon activity planning, monitoring and evaluation to determine levels and types of allowable uses and to determine the need for any protective or limited use designations. With the exception of riparian exclosure fencing, it also stresses unspecified mitigation to repair resource damage as opposed to protection or restricted use to prevent resource damage. This emphasis on activity planning, evaluation, monitoring and nonspecific mitigation makes it very difficult to assess the true impacts of Alternative B with any degree of accuracy. With this in mind, the overall impact of Alternative B on wildlife resources is projected to be adverse based upon identified increases in livestock AUMs; dramatic increases vegetation treatments; fewer areas excluded from mineral exploration, mining, materials sales and fluid minerals leasing; expanding OHMV activity with fewer access restrictions; and reduced emphasis on special designations including ACECs, Wild and Scenic Rivers and SRMAs that would provide various levels of protection for wildlife and wildlife habitat. The projected improvement of approximately 196 miles (30%) of riparian/wetland habitat resulting from livestock exclosures and implementation of activity plans and associated livestock grazing systems would benefit a large diversity of wildlife species as would some vegetation treatments.

Meeting The Objectives

Objective WDLF 1: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of big game species within the Owyhee Resource Area including 1,246,000 acres of mule deer habitat, 50,000 + acres of elk habitat and 819,000 acres of pronghorn habitat.

This objective would not be met for mule deer or elk but should be met for pronghorn. Removal of more than 282,000 acres of woody vegetation via burning and harvest treatments is projected to have a substantial adverse impact on mule deer, and to a lesser degree, on elk and pronghorn winter habitat. While some level of woody vegetation treatment would improve habitat for all big game species, the loss of this much is projected to be detrimental, especially to deer and elk in terms of greatly reduced cover and browse and increased competition for remaining browse. Other adverse impacts include the majority of riparian habitat remaining in unsatisfactory condition; increases in allocated livestock AUMs; increasing OHMV activity, including the lack of seasonal use restrictions within big game winter habitat; and potential reductions in the number and size of special designations which afford various levels of protection for big game habitat and populations. Pronghorn populations would likely increase as large areas woody vegetation are converted to grasslands but would be vulnerable to high mortality during severe winters if adequate shrub cover is not left on winter ranges.

Objective WDLF 2: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of upland game including 904,000 acres of sage grouse habitat, 547,000 acres of chukar habitat and 29,000 acres of pheasant habitat.

This objective would not be met. The majority of riparian habitat would remain in unsatisfactory condition adversely affecting most upland game species including sage grouse, blue grouse, chukar, California quail and pheasant, to some degree. Most upland game would also suffer, to various degrees, from increasing levels of OHMV activity with fewer restrictions, some land tenure adjustments and easement acquisitions and the potential reduction in habitat protection from special designations. Although some vegetation treatments are projected to benefit upland game species, the elimination, via prescribed burning, of an estimated 209,000 acres of big sagebrush habitat and another 55,000 acres of seral juniper containing various levels of sagebrush understory is projected to reduce sage grouse populations and could adversely impact quail and pheasant habitat at lower elevations.

Objective WDLF 3: Maintain satisfactory and improve unsatisfactory riparian/wetland habitat for waterfowl, furbearers and a diversity of other game and nongame species.

This objective would not be met. Under this alternative, only 36% (236 miles) of stream riparian habitat is projected to be in satisfactory condition after 20 years. This would be an improvement of only 23% (152 miles) over current conditions and 4% (25 miles) over Alternative A. Sixty four percent (416 miles) would remain in unsatisfactory condition under this alternative. Both species diversity and overall numbers of wildlife would continue to remain well below potential in these degraded habitats. Adverse impacts would also likely result from relaxed restrictions on OHMVs and other recreational activities and from deemphasis on establishment of special designations which provide habitat protection from a variety of disturbing activities. Refer to Riparian and Fisheries sections for specific details.

Objective WDLF 4: Maintain satisfactory and improve unsatisfactory habitat for a large diversity of nongame wildlife on 1.3 million acres.

This objective would not be met for most nongame species. Primary impacting actions are the continuation of warm season grazing resulting in the majority of riparian habitat remaining in unsatisfactory condition and the loss of nearly 264,000 acres of woody vegetation to prescribed burns and woodcuts. Because of the much larger number of species associated with riparian and woody upland habitats it is projected that both species diversity and biomass would decline. Increasing levels of OHMV activity with fewer restrictions, some land tenure adjustments and easement acquisitions, and the potential reduction in habitat protection from special designations would result in additional adverse impacts on many nongame habitats and species.

FISHERY HABITAT

Change Agents

Livestock grazing, mining activities, OHMV activities and prescribed burning.

Impact Analysis

Implementation of livestock grazing systems would improve fish habitat conditions on approximately 3% (14 miles) over the short term (5 years) from Alternative A. Over the long term (20 years), a 14,599 (11%) AUM increase in livestock grazing would occur. Implementation of grazing systems designed to improve riparian condition would result in improvement on 19% (97 miles) of all stream miles over 20 years in Alternative B.

Nonpoint source mining impacts on fish communities and biodiversity would be the same as described in Alternative A. Nonpoint source mining impacts would not change from current levels.

Point source impacts on fish communities and biodiversity from mining would be the same as described in Alternative A. Point source mining impacts would not change from current levels.

Adverse OHMV impacts on fish communities and aquatic biodiversity would increase in Alternative B. The type of impact would be the same as described for Alternative A. The number of acres with few limitations on OHMV use would increase by about 50% over Alternative A. Initially, impacts would occur primarily along the Owyhee Front but would expand to the southern portion of the resource area over 20 years.

Impacts on aquatic species habitat from prescribed burns would be of the same type as those described in Alternative A. Prescribed burns would be conducted on about 440,000 acres over the next 20 years. This would be about a 260% increase over Alternative A.

Conclusion

Livestock grazing systems designed to improve riparian condition would result in satisfactory fish habitat condition on 19% of all stream miles in 20 years. Grazing systems in combination with other management actions would result in satisfactory condition on approximately 32% (166 miles) of all stream miles. The impact of grazing system development on fishery habitat is shown below.

Fish Habitat (miles)	Baseline	Alternative B
Satisfactory condition	42	166
Unsatisfactory condition	469	345

Meeting the Objectives

Objective: FISH 1: Improve unsatisfactory condition and maintain satisfactory condition habitat to support native fish so that all perennial streams are in satisfactory condition in 20 years.

This object would be met on 32% (166 miles) of all stream miles in Alternative B. Control of livestock use in riparian areas would result in increased streambank stability and improved stream channel shading which would all contribute to improved fishery habitat condition.

Objective: FISH 2: Improve reservoir fishery when appropriate, in consultation with State agencies and adjacent landowners.

This objective would be fully met on the majority of reservoirs in Alternative B.

SPECIAL STATUS SPECIES

Special Status Plant Species

Change Agents

OHMV activities, livestock grazing, mining activities, vegetation treatments, livestock water developments, fencing, recreation use, land use authorizations, land tenure adjustments, plant collecting, ACEC designations and national river designations.

Impact Analysis

A projected increase in OHMV activity in addition to very liberal access to the entire resource area via use of existing and historic trails and sand washes would result in long-term adverse impacts on many of the resource area's 31 special status plant species. Most of this increased activity is projected to occur within the Snake River geographic reference area, where topographic and geologic conditions are most favorable for OHMV users and because of this area's proximity to population centers. Impacts on special status plant species are projected to be adverse, although the degree of impact would generally be less for species present on rockier soil types. Impacts would be both direct and indirect, including destruction of habitat and plants and weed introductions resulting in habitat modification and increased competition for resources. Although 420,493 acres would be converted from an "Open" to a "Limited - Level IIA" category within the southern half of the resource area, the restrictions prescribed in the "IIA" category relative to the restrictions prescribed in Alternative A would be adverse for the special status plant resource.

In Alternative B, it is projected that continuation of current livestock grazing levels over the short term and a 11% increase in stocking levels over the next 20 years would have an adverse impact on special status plants. Although pre-livestock grazing data for special status plant distributions are not available, it is projected that increased stocking levels, the subsequent increased grazing use that would result and continued domestic sheep grazing would lead to further habitat deterioration and a downward trend in the resource area's overall ecological status (575,000 acres already in an early seral stage), including special status plant habitat. Exotic plant invasions into areas where rangeland health has declined and where livestock associated range projects are developed would have a major adverse impact on special status plant populations. Possibly the most significant adverse impacts are projected for special status plants from livestock grazing through the associated indirect actions identified in Alternative B including pipelines and associated troughs, pasture fencing, and vegetation treatments. These are discussed separately in the sections below.

Impacts from mining activities are projected to be similar to slightly more adverse than those projected in Alternative A. Mining activities would continue to have a long-term adverse impact on special status plants, and are projected to be most severe within the Snake River geographic reference area, where a variety of localized materials (i.e. zeolite, bentonite, diatomaceous earth, oolitic limestone) are found. Many of these materials comprise the habitat of special status plant species. While fluid and material mineral constraints are similar in Alternatives A and B, 122,962 fewer acres are recommended for locatable mineral withdrawal in Alternative B than in Alternative A. These acreages are within the Owyhee River Bighorn Sheep Area, Boulder Creek, North Fork Juniper Woodland, and Pleasant Valley Table. Species potentially affected by mining activities in these four areas include

Simpson's hedgehog cactus, rattlesnake stickseed, dimersia, and white eatonella. Special status plant species and their habitat would continue to be destroyed and fragmented in Alternative B. The extent of impacts would be determined primarily by the amount of activity, location and mining techniques.

An estimated 110,410 acres of western juniper are identified for cutting or burning in Alternative B. This would be 37,710 acres more than Alternative A. The increased acreage would come primarily from the acreage identified for burning (92,320 acres). As discussed in Alternative A, most of the special status plants listed in Table SPSS-1 do not occur in juniper habitat. However, for the three that do (Osgood Mountains milkvetch, white eatonella, and dimersia), the impact of these actions could be either beneficial or adverse. Because of the similar acreages (18,090 vs. 17,000), Alternative B's impact on special status plants from juniper cutting would be comparable to Alternative A. Short-term and potentially long-term adverse impacts would be slightly greater in Alternative B due to the additional roads and debris and slash piles that would be required. Prescribed juniper burns are not projected to have a long-term adverse impact on special status plants in general, and could benefit these species in some cases. Adverse impacts could occur if burn sites are chosen that lead to the domination of a site by exotic plants rather than the desired native plant component.

In Alternative B, 348,283 acres of sagebrush are identified for treatment, including prescribed burning (264,403 acres) and prescribed burning and seeding (83,880). These acreages are significantly higher than those identified in Alternative A (52,500 prescribed burn and 13,400 burn and seed). Plant species that could be impacted include Osgood Mountains milkvetch, inch-high lupine, and possibly least phacelia. In Alternative A, prescribed sagebrush burns were projected to have a long-term beneficial impact, as long as areas are burned where invasion by exotic plants is not projected. However, the extremely large acreage identified for burning in Alternative B, a five-fold increase over Alternative A, would potentially cause significant adverse impacts on special status plants because of the greater overall habitat alteration that would occur. The long-term adverse impacts of prescribed burning followed by seeding would also be significantly higher than those discussed in Alternative A, due to the much larger acreage impacted (67,980 acres more than Alternative A).

Construction of livestock water developments identified in Alternative B include livestock reservoirs (19), pipelines and associated troughs (22 miles), and spring developments (45). Only the number of pipeline miles and troughs differ from that identified in Alternative A. Impacts on special status plants would be slightly more adverse than in Alternative A due to the redistribution of livestock into previously little used areas. Impacts would primarily be long-term and indirect. While project or site specific clearances for special status plant would be conducted, it is difficult to assess the indirect but associated impact of some water developments on special status plants, as trailing routes and changes in use patterns are not always predictable. In some cases special status plants could benefit by improved dispersion of livestock if livestock are prevented from concentrating in rare plant habitat. Direct impacts on special status plants would depend upon exact project locations, but in general, adverse impacts are projected to be minimal, since site examinations would be conducted prior to project approval.

The impact of 101 miles of pasture fence construction (23 more miles than identified in Alternative A) on special status plants is projected to be adverse if it results in livestock concentrating within special status plant habitat. While actual fence construction may have no direct impact on these species, the indirect impact of these additional fencing miles could potentially be high. Because field exams are not typically extended into adjacent areas and because complete inventory data is lacking, it is possible that unknown special status plant populations would be adversely impacted by the construction of new fences and subsequent changes in public land livestock use. Fencing could benefit special status plants when the fence improves livestock distribution and relieves pressure on the plant's habitat. Riparian or canyon associated species that could benefit include rattlesnake stickseed, Simpson's hedgehog cactus, and Hall's rush.

In Alternative B, deletion or addition of specific SRMA designations are not identified, making it difficult to assess impacts. If and when existing SRMAs are released from SRMA designation, they would typically be subject to increasing levels of OHMV and a variety of other impacting actions which would increase the adverse impacts on special status species in these areas.

In Alternative B, prior to approval and issuance of any right-of-way, lease or permit, site examinations for special status plants would be conducted to prevent adverse impacts on these species. Adverse impacts could occur if examinations were done at an inappropriate time of year. Because land use authorizations could result in substantial surface disturbance, special status plants could be indirectly impacted by fragmentation of habitat and the introduction of exotic plants into disturbed areas. In general, Alternative B is projected to have a greater long-term adverse impact on special status plant species than Alternative A because it would allow expanded motorized access throughout the resource area.

As discussed in Alternative A, adjustments in land tenure would have either a beneficial or adverse impact on special status plant species, depending on the purpose of the acquisition or exchange and the parcels involved. In Alternative A, these adjustments would generally be beneficial, as Bureau policy typically would not permit exchange or sale of public lands occupied by special status species, unless lands of a higher biological value are to be acquired. Alternative A specifically identifies habitat acquisition for special status plants when deemed necessary to ensure a species' continued survival. In Alternative B, land tenure adjustments would be based on those lands with irregular boundary lines, fenced federal range, or with isolated locations. While these adjustments could incidentally benefit special status plants, the lack of specific habitat acquisition for these species suggests the net effect to special status plants of implementing Alternative B could be adverse.

As in Alternative A, the impacts on special status plant species from collecting could be slightly adverse over the long term in Alternative B due to the inability to control this activity on public land.

In Alternative B, impacts from the designation (retention) and special management of four areas as ACECs or ONAs (Guffey Butte/Black Butte, Owyhee River Bighorn Sheep Habitat Area, Boulder Creek, North Fork Juniper Woodland) would be similar to those identified in Alternative A. Long-term impacts could be slightly beneficial for several special status plant species, including Simpson's hedgehog cactus and rattlesnake stickseed. However, because of the interagency annual review process prescribed for all existing and potential ACECs relative to current multiple use management, and the possibility that one or more of the four existing areas could have their special management designation removed, it is projected that Alternative B could generally have a long-term adverse impact on ACEC values.

In Alternative B, only those river segments that already have been recommended to Congress for special river designation are identified for protection (East Fork Owyhee - 66 miles). Consequently, the overall long-term impact of Alternative B on special status plants is projected to be adverse relative to the greater number of miles recommended in Alternative A (94 miles). Additionally, because Alternative B prescribes specific actions that would maintain continued multiple recreational uses and establish designated equestrian, foot, and OHMV trail systems within designated river segments, the benefits to special status plants obtained solely through special designation would likely be offset.

Conclusion

The overall impact of Alternative B on special status plants is projected to be adverse. Major contributing change agents include expansion of OHMV activity with fewer access restrictions; a 11% increase in livestock AUMs; increased potential for habitat destruction from mining related activities; dramatic increases in vegetation treatments (sagebrush removal) and pipeline miles, and a slight increase in pasture fence miles. Several special status plant species could benefit from fencing of riparian/wetland habitats, but this would not offset the adverse impacts associated with other prescribed management actions.

Meeting the Objectives

Objective SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

Based upon the lack of baseline inventory and monitoring data for most of the 31 special status plants, it is difficult to determine how they would respond to the management actions identified in Alternative B. However, it is reasonable to assume that species growing in habitats that would continue to be heavily impacted, such as the Snake River geographic reference area, would decline. This could contribute to the listing of some plant species as federally threatened or endangered. This objective would likely not be met for the plants found in these heavily impacted areas.

Special Status Animals

Change Agents

Livestock grazing, livestock water developments, fencing, vegetation treatments, mining activities, OHMV activities, other recreation actions, special designations, reservoir enhancement, land tenure adjustments and land use authorizations.

Impact Analysis

The implementation of some activity plans, grazing systems and livestock exclosures, under this alternative, are projected to result in a total of 36% (236 miles) of stream riparian habitat being in satisfactory condition within 20 years. This is only a 23% improvement over the current situation and 4% improvement over Alternative A but would benefit any of the special status species associated with these improved habitats, possibly including mountain quail, Preble's shrew, spotted frog, leopard frog and redband trout. An estimated 63% (416 miles) will remain in unsatisfactory condition as a result of continued mid-and-late-season grazing and an 11% increase in livestock AUMs. Continuation of mid-to-late-season grazing would also continue to adversely impact upland meadow/riparian habitats and many of the same special status species. Continuation of domestic sheep grazing within the resource area would continue to lead to increased risk of disease transmission to California bighorn sheep as these populations continue to grow and expand. The overall short-term and long-term impact of livestock grazing and most livestock water developments is projected to be adverse.

The number livestock water developments and resulting impacts would be very similar to those identified in Alternative A, although, the additional 22 miles of pipeline and associated 22 troughs could result in additional habitat disturbance to any special status species in the immediate vicinity of these troughs. In addition, only reservoirs with a surface area of five acres or larger would be considered for fencing which would eliminate most, if not all, from consideration and limiting beneficial impacts on special status species. In Alternative B, approximately 90 fewer miles of new pasture and exclosure fence would be construct and associated impacts on special status animals would be proportionately less than in Alternative A.

Prescribed burning to eliminate 55,320 acres of juniper woodlands and 208,970 acres of big sagebrush habitat, compared with an estimated 33,420 acres and 39,540 acres juniper and shrub habitats burned in Alternative A. This is projected to result a substantial loss of existing pygmy rabbit habitat although a portion of the area treated would eventually have become unsuitable as a result of the loss of shrubs to juniper. Juniper woodcuts would likely improve pygmy rabbit habitat by preventing or reversing the loss of understory vegetation. Burrowing owls and long-billed curlew could benefit from conversion of juniper woodland and shrub habitats to more open habitats, in some areas, however, the overall impact of this level of treatment to special status animals is projected to be adverse.

Impacts of mineral related activities including exploration and extraction of locatable, saleable and leasable minerals would be very similar to those discussed in alternative A. The only change would be within areas which would have been withdrawn from mineral entry and closed to materials sales and fluid minerals leasing in Alternative A. These include Wild and Scenic River segments and some ACECs. In Alternative B suitability recommendations for these special designations would be postponed pending further study and it is projected that fewer acres would eventually be designated as either Wild and Scenic River or ACEC. This would result in more area potentially being open to mineral related disturbance which would result in additional adverse impacts on special status species within these areas. Both short-term and long-term impacts are projected to be adverse.

A substantial increase in OHMV activity (a projected 37% increase by the year 2000) associated with very liberal access to the entire resource area via use of existing and historic trails and sand washes could result in a substantial increase in adverse impacts on a number special status species. In the short term, the bulk of OHMV activity and associated impacts are projected to occur within the Owyhee Front SRMA because of its close proximity to population centers. In the long term, even though 420,493 acres would be converted from "Open" to Limited IIA category within the southern half of the resource area, adverse impacts are still projected to increase throughout the resource area as major use areas along the Owyhee front become more and more congested, due to the lack of user constraints, and people seeking a higher quality experience begin to move into these less congested areas. Alternative B would result in a steady increase in the number of acres of wildlife habitat degraded by OHMV use. Allowing for use of historic trails and sand washes areawide, along with elimination of all seasonal use restrictions, would add substantially to the level of habitat and population disturbance. Special status species most likely to be adversely impacted include the western toad, mojave black-collared lizard, western ground snake, long-nosed snake, long-billed curlew, burrowing owl, ferruginous hawk and kit fox. The types of impacts identified in Alternative A also apply to Alternative B.

In Alternative B, a Recreation Management Action Plan would be developed which would assess the validity of all existing SRMAs and the need for establishing any additional SRMAs. If and when existing SRMAs are released from SRMA designation they would, for the most part, be subject to increasing levels of OHMV activity, other forms of recreational use and a variety of other actions which would adversely impact some or all special status species in these areas. Since no specific SRMAs or management actions were identified for deletion or addition, no specific impact assessment can be done.

As with SRMAs, Alternative B prescribes only to study rivers and river segments for inclusion in the National Wild and Scenic Rivers System. No specific rivers or river segments were recommended for inclusion although specific actions were identified which would maintain continued multiple recreation uses and establish designated equestrian, foot and OHMV trail systems within river segments as they are designated. Special status species most likely to be adversely effected by the lack of protection provided by river designations as recommended in Alternative A include bald eagle, peregrine falcon, mountain quail, white pelican, Preble's shrew, spotted bat, Townsend's big-eared bat, western pipistrelle, California bighorn sheep, spotted frog and redband trout. Long-term impacts are projected to be adverse.

Upgrading or reconstructing facilities at seven recreation sites and construction of foot and equestrian trail systems would likely result in increased public use at and in the general vicinity of each of these sites. Impacts would be similar to those identified in Alternative A except that special restrictions on vehicle access and special recreation permitting associated with facilities and trails within areas identified as SRMAs in Alternative A may not apply. The more liberal OHMV designations would have an increased impact within the vicinity of most or all developed recreational facilities. The result would be an increase in physical habitat deterioration and disturbance or displacement of special status species in excess of that identified in Alternative A. Both short-term and long-term impacts of recreation facility development in Alternative B are projected to be mostly adverse.

Impacts of equestrian events and guiding and outfitting services would be similar to those identified in Alternative A. Short-term and long-term impacts are projected to be slightly adverse and projected to increase over the next 20 years.

As discussed in Alternative A, land tenure adjustments to consolidate public lands through State or private exchange can have either a beneficial or adverse impact on wildlife depending upon which parcels are involved. Since no specific land tenure adjustments were identified in Alternative B, no specific impact assessment can be made. However, since actions identified in Alternative A to acquire habitat for special status species were not included in Alternative B, the net effect to wildlife of implementing Alternative B could be adverse.

In Alternative B, land use authorizations (rights-of-ways, leases and permits) would continue to have a mostly adverse impact on special status species as habitat is dedicated to other uses. ROWs and easement acquisitions identified in Alternative B are specifically for motorized access, OHMV and other types of recreational access. These and most other types of land use authorizations are likely to result in long-term alteration or destruction of habitat for a variety of special status species. Even though most affect a relatively small area, the cumulative impact over 20 years could be substantial. Short-term and most long-term impacts are projected to be adverse.

Conclusion

Alternative B depends heavily upon activity planning, monitoring and evaluation to determine levels and types of allowable uses and to determine the need for any protective or limited use designations. It stresses mitigation to repair resource damage as opposed to restricted use to limit or prevent resource damage. This emphasis on activity planning, evaluation, monitoring and nonspecific mitigation makes it very difficult to assess the true impacts of Alternative B with any degree of accuracy.

With this in mind, Alternative B is projected to have an adverse impact on special status animal species based upon continued warm season grazing of most riparian habitats; increases in livestock AUMs; large increases in vegetation treatment acreage; increased potential for loss of habitat to mineral exploration, mining, materials sales and fluid minerals leasing; expanding OHMV activity with fewer access restrictions; reduced emphasis on special designations including ACECs, Wild and Scenic Rivers and SRMAs that would provide various levels of habitat protection; and the lack of any specific actions to facilitate reintroduction of any special status species. Some beneficial impacts would result from improvement of approximately 85 miles of stream riparian habitat via implementation of activity plans, grazing systems and exclosure fencing and improvement of some upland habitats via vegetation treatments.

Meeting The Objectives

Objective SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

This objective would not be met. Based upon the current lack of baseline inventory and monitoring data for most special status animal species, it is difficult to determine how current management is affecting most of these species or to accurately predict how they would respond to the allocations and management actions identified in Alternative B. It is projected, however, that most riparian/wetland habitats, a diversity of habitats within the Owyhee Front SRMA and other heavily used OHMV areas, and those special status species dependant upon these habitats, would either remain in unsatisfactory condition or decline further. The loss of sagebrush habitat to large scale prescribed burning is projected to result in a substantial loss of pygmy rabbit habitat and dependant populations. Adverse impacts on many upland and riparian habitats and dependant species are also projected to continue or increase as a result of fewer land use restrictions and special designations prescribed in Alternative B.

WILD HORSE MANAGEMENT

Change Agents

OHMV activities, recreation use, mining activities, fencing, vegetation treatments, livestock water developments and livestock grazing.

Impact Analysis

In Alternative B it is projected that recreational uses within the Herd Management

Areas (HMAs) would greatly increase. These recreational uses would include, but not be limited to, OHMV, equestrian (both causal and competitive) and commercial outfitting services. The existing Hemingway Butte and Rabbit Creek trailheads and their respective surroundings would continue to receive concentrated recreational uses. Further, these areas would continue to be managed and maintained with the understanding that concentrated OHMV and other multiple recreational uses would be ongoing for the next 20 years. Within the three HMAs, OHMV use would be limited to existing roads, jeep trails, motorcycle/ATV trails, historical established game, wild horse and livestock trails, and sand washes. Some designated trails could be identified for compatible recreation and commercial uses if monitoring does not identify or document harassment of wild horses.

Increased human contact, equestrian activities, motorized vehicles and noise would likely trigger an instinctive behavioral change. When threatened, a survival instinct normally occurs and the wild horses try to distance themselves from it. Wild horses may slowly adapt to some threats, but in Alternative B they would be overwhelmed by the increase in multiple recreational uses. Continued or prolonged threats within a given area would reduce or stop wild horse use of the area. Once the wild horses become displaced, living space is reduced, herds are concentrated over a lesser area, and available forage and dependable water is reduced. This would increase competition between wild horses, wildlife and livestock within a reduced habitat area. The appropriate management level (AML) would be reduced over the next 20 years to at or near the established minimum number of 118. The wild horses would commonly be found outside the designated HMA boundaries and have to be removed.

Areas of concentrated motorized recreational users would create areas of soil disturbance which would provide a niche for the establishment of noxious weeds within the HMAs.

The HMAs would remain open for exploration and development of minerals. Exploration and development of locatable minerals, fluid minerals and use of mineral materials could have an increasing detrimental impacts on wild horses as habitat is disturbed over the next 20 years, particularly within the Black Mountain and Hardtrigger HMAs. The extent of habitat impact would be determined by the amount of activity, advances in mining and mitigation techniques, location and other factors. Impacts would be in the form of short-term and long-term habitat loss at exploration and mining locations, increased public access associated with exploration, assessment, and mining roads and ways and indirect disturbance to wild horses within the vicinity of mines and exploration operations.

Internal fences within HMAs would not be beneficial to wild horses. Gates along fences, if not opened in a timely manner after authorized domestic livestock grazing periods, would impact winter range accessibility and free-roaming behavior. If habitat or riparian exclosures or fences are constructed, the projects would be designed to not impact water availability and the free-roaming behavior of the wild horses.

Vegetation treatments are projected in the three HMAs and would have short-term impacts on the wild horses. Wild horses would not be allowed on treatment areas for two grazing seasons. After that period the wild horses may or may not benefit from the increased forage, depending on the degree of previously stated impacts.

Water developments could increase forage competition with livestock. Development of livestock water projects are projected to result in deterioration of habitat conditions for wild horses at and near the development.

Grazing systems could modify wild horse distribution and free-roaming behavior. Grazing systems and scheduled closing of gates to control domestic livestock movement confines horses to particular allotments or pastures over the course of the grazing season. The movement of livestock by the permittees has at times resulted in displacement of wild horses. Over the next 20 years only a slight increase in preference is projected (see Table LVST-B) from April 1 through October 31 within the HMAs. Vegetation treatments are identified in all three HMAs and would help provide forage. However, combined with the livestock numbers and wild horses becoming concentrated by previous stated impacts, increased competition for forage would occur. This could result in unacceptable levels of utilization on key forage species and an overall decline in habitat conditions. Drought conditions could compound this situation.

Conclusion

Overall, it is projected that the wild horses would be adversely affected. The wild horses may slowly adapt to the increased recreational uses, but without adequate living space their tolerance threshold would be exceeded. The wild horses would be concentrated into smaller use areas, and increased competition for forage and water between consumptive species would occur. The wild horses may be forced outside of identified HMAs and have to be removed. The appropriate management level (AML) would be reduced over the next 20 years to near or at the established minimum.

Meeting the Objective

Objective WHRS1: Maintain wild and free-roaming horses in the Owyhee Wild Horse Herd Management Area (HMAs) at appropriate management level (AML) with a thriving natural ecological balance.

In Alternative B, the objective for wild horses would not be fully met. The wild and free-roaming behavior of the wild horses would be adversely affected by reduced living space within identified HMAs.

Projected impacts on specific wild horse needs are shown below.

Components	Baseline	Short-Term	Long-Term
Forage Allocation	2329	Based on AML	Based on AML
Viability Level	118	118	118
Estimated Herd Size	178	AML	Unknown
General Health	0	0	-

Free Roaming Opportunity

Allot #	Pasture Name	#	Baseline	Short-term	Long-term
0521	Barrel Spring	4	0	0	-
0521	Seeding	2	0	-	-
0521	Bridge Creek	3	0	0	0
0522	Rats Nest	1	+	+	0
0556	Shares Basin	1	0	0	-
0513	Elephant Butte	3	-	-	-
0516	Opalene	3	0	-	-
0516	Hardtrigger	4	0	-	-
0516	Piute	5	0	-	-
0516	Hemingway	1	-	-	-
0508	Wilson	1	0	-	-
0508	Soldiers Cap	3	0	-	-
0508	Salmon Butte	4	-	-	-
0508	Whiskey Hill	5	N/A	N/A	N/A
0508	Alkali	6	N/A	N/A	N/A
0651	North Rabbit	1	0	0	-
0651	Little Kane	2	0	-	-
0651	State	4	0	0	0
0517	West Rabbit (N)	1	-	-	-
0517	West Rabbit (S)	2	-	-	-
0517	Kane Spring	3	0	-	-
0517	Moores Creek	6	-	-	-
0517	South Rabbit	5	0	-	-
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = Not Within HMA

Water Availability for Wild Horses in HMAs on a Year Long Basis

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	-	-
0521	Seeding	2	0	-	-
0521	Bridge Creek	3	-	-	-
0522	Rats Nest	1	0	-	-
0556	Shares Basin	1	0	-	-
0513	Elephant Butte	3	-	-	-
0516	Opalene	3	0	-	-
0516	Hardtrigger	4	0	-	-
0516	Piute	5	0	-	-
0516	Hemingway	1	-	-	-
0508	Wilson	1	0	-	-
0508	Soldiers Cap	3	0	-	-
0508	Salmon Butte	4	0	-	-
0508	Whiskey Hill	5	N/A	N/A	N/A
0508	Alkal	6	N/A	N/A	N/A
0651	North Rabbit	1	-	-	-
0651	Little Kane	2	0	0	0
0651	State	4	0	0	0
0517	West Rabbit (N)	1	-	-	-
0517	West Rabbit (S)	2	-	-	-
0517	Kane Spring	3	0	-	-
0517	Moores Creek	6	0	0	-
0517	South Rabbit	5	0	-	-
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = Not Within HMA

Public Interaction/Contact with Wild Horses Resulting in Disturbance

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	0	-
0521	Seeding	2	0	0	-
0521	Bridge Creek	3	0	0	-
0522	Rats Nest	1	-	-	-
0556	Shares Basin	1	0	-	-
0513	Elephant Butte	3	-	-	-
0516	Opalene	3	-	-	-
0516	Hardtrigger	4	0	-	-
0516	Piute	5	0	-	-
0516	Hemingway	1	-	-	-
0508	Wilson	1	-	-	-
0508	Soldiers Cap	3	0	-	-
0508	Salmon Butte	4	0	-	-
0508	Whiskey Hill	5	N/A	N/A	N/A
0508	Alkali	6	N/A	N/A	N/A
0651	North Rabbit	1	-	-	-
0651	Little Kane	2	0	-	-
0651	State	4	0	0	-
0517	West Rabbit (N)	1	-	-	-
0517	West Rabbit (S)	2	-	-	-
0517	Kane Spring	3	+	0	-
0517	Moores Creek	6	+	0	-
0517	South Rabbit	5	+	0	-
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = Not Within HMA

LIVESTOCK GRAZING MANAGEMENT

Change Agents

Livestock grazing systems, vegetation treatments, range improvements, interim management policy for wilderness study areas, national river designations, ACEC designations and mining activities.

Impact Analysis

Active preference is currently 136,285 AUMs with a average licensed use of 115,144 AUMs. Alternative B would result in a 5-year preference of 136,285 AUMs and a projected 20-year preference of 150,884 AUMs. See Table LVST-B for forage allocations by allotment.

Implementation and maintenance of intensive grazing systems should reduce the need for reductions in livestock use, for the uplands. With the prescribed season-of-use and grazing systems, livestock grazing in riparian ecosystems would continue during the hot summer months. Utilization, climate and actual use would be used to balance forage production with livestock use. See Table LVST-B for grazing systems by allotment.

Vegetation treatments (prescribed burning and prescribed burning and seeding) would result in a short-term loss of 45,896 AUMs during prescribed burn management because of rest from livestock grazing for three consecutive growing seasons;

one growing season before the burn (to insure sufficient fuel to carry a fire) and two growing seasons after the burn (to enhance vegetation establishment). The long-term impacts would result in an increase of 229,465 AUMs potentially available in the prescribed burn areas due to regrowth and seeding. It is not projected that the vegetation treatments would result in increased total preference on any allotment but some suspended preference (14,603 AUMs) would be returned over the next 20 years. The remaining suspended preference (26,549 AUMs) would be returned to active preference when monitoring indicates that forage production is available and other resource objectives are being met. See Table LVST-3 for potential vegetation treatments.

Vegetation treatments	Prescribed Burn	Burn and Seed	Total
Acres	356,723	83,880	440,603
Short-term reductions (AUMs)	37,419	8,477	45,896
Long-term production (AUMs)	187,080	42,385	229,465

Range improvement projects (water developments and fences) needed to implement allotment grazing systems and manage livestock distribution would be designed to decrease unsatisfactory rangeland conditions and to meet other resource objectives. New fences would be designed and constructed to meet Lower Snake River District Fence Policy standards for the wildlife species present to minimize barriers to big game movement. See RISP-1 and Figure WLDF-1. With increased recreation use, the increased projects for livestock grazing could result in increased recreation facilities to reduce potential livestock/recreation conflicts. Cattleguards and other facilities would be constructed as necessary where new projects impede recreation movement. See Table LVST-3 for potential range improvement projects for Alternative B.

Interim management policy for wilderness study areas would restrict rangeland project developments but would not change livestock management practices. No reductions or increases in active preference would result from the interim management policy.

National river designations could result in livestock being removed from designated river channels. This could result in a change in the affected allotment's season-of-use but there are no projected reductions in active preference.

ACEC designations and special management would result in one small area being fenced to exclude livestock but would not result in any AUMs being lost to livestock grazing. Within the Owyhee River Bighorn Sheep Habitat Area ACEC no livestock water developments would be constructed. No changes in existing management are prescribed for this ACEC. See Table ACEC-B for ACEC management actions.

The Stone Cabin Mine would reduce stocking rates on three allotments (Jump Creek, Flint Creek and Silver City) by 112 AUMs for the life of the mine which is projected to be 30 years. Reclamation of all but about 105 acres would result in all but 15 AUMs being returned to active preference.

Conclusion

Implementation of Alternative B with the associated grazing management actions would have few short-term impacts on current livestock management. Over the long term, forage demands would be met with the vegetation treatments, range improvements and grazing systems identified. Some suspended preference (14,603 AUMs) would be returned to active preference. In 20 years improvement is projected with 37% of the rangelands in the Jordan Creek and Owyhee River geographic reference areas remaining in an early seral stage and 27% achieving a late seral stage. Continued spring grazing in the Snake River geographic reference area would not allow for much improvement in upland range condition as 20 years is not long enough to project much change in this area. The ecological condition on most of this area would remain unsatisfactory throughout the next 20 years and only 2% is projected to improve. Riparian ecosystems throughout the resource area available to livestock grazing during the hot summer months would continue to remain in less than satisfactory condition. Water, riparian and fish objectives would be met on only 32% of the stream miles. Livestock use (active preference) would be 150,884 AUMs at the end of 20 years, a 11% increase from current use.

Meeting the Objectives

Objective LVST 1: Resolve issues associated with livestock grazing identified in the allotment summary (Appendix LVST-1). Eliminate issues within 20 years.

This objective would not be met in Alternative B because of unresolved resource concerns that were identified.

LOCATABLE MINERALS

Change Agents

Corridors along nationally designated rivers, certain recreational areas and ACECs; riparian and wetland management, water quality, recreation use and land tenure adjustments.

Impact Analysis

Withdrawal actions taken by Congress or the Secretary of the Interior in Alternative B would remove 95,687 acres (about 7%) of public lands in the resource area from location and development under the general mining laws, subject to valid existing rights of pre-existing mining claims. Validity exams would be conducted on these claims to determine whether valid existing rights exist. See Table LOCM-B for specific closures.

Managing lands such as the Carson Mining District primarily for mineral development could result in adverse impacts on riparian areas, water quality, wildlife, cultural, and wetland resources through the construction of roads, drill pads, mine pits, dumps, heap leach pads and related facilities. Requiring industry to use best management practices during all phases of exploration and mining would minimize damage to other resource values. Mitigating measures would stabilize areas disturbed during mining and prevent excess sediment deposition in wetlands and live streams. Proper design of facilities would reduce or eliminate acid mine drainage and wildlife kills. Cultural resources could be salvaged prior to or during construction to mitigate adverse impacts on historic resources. Performance bonds would be required of all operations conducted under a Plan of Operations as defined by 43 CFR 3809.1-4. Inspections of all exploration operations using mechanized equipment and of all mining operations would occur on a frequent basis to insure an adequate level of mitigation and protection.

Recreation activities would generally be incompatible with mining and exploration operations. Exploration and mine sites may need to be fenced off from nearby established recreations sites such as campgrounds and OHMV trails for safety reasons. New mining access routes could be restricted or located to not interfere with certain recreation activities. New campgrounds and related recreational facilities should be located well away from active mining operations to avoid noise, dust and mine-related safety hazards.

Land tenure adjustments would remove a small amount of land from location under the general mining laws. Mineral reports would be prepared on all lands involved in the sales and exchanges and mining claims on public lands would require a validity examination to determine any valid existing rights.

Conclusion

The overall impact of Alternative B on locatable mineral management would be favorable to mineral resource development, but could have moderate to severe short-term impacts on other surface resources.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Physical access to the resource is provided for by the mining laws. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Two main criteria were considered when determining if the objectives were being met: 1) Developmental restrictions - if maximum bonding, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 2) Potential likelihood of development - is the resource present in economically minable amounts.

Objective LOCM 1: Provide opportunities for exploration and development of locatable mineral resources on public lands under the Mining Laws.

The objective would be met in Alternative B.

Availability of Lands for Locatable Mineral Activity Relative to Resource Potential - Alternative B

Management Constraint	High Potential	Moderate Potential	Total
Public Lands			
Open	25,300	1,347,871	1,373,171
Withdrawn	40	95,647	95,687
Split Estate			
Open	2,135	128,856	130,991
Withdrawn	40	2,410	2,450

FLUID MINERALS

Change Agents

Mineral leasing closures and restrictions in corridors along nationally designated rivers, certain recreational areas and ACECs, for riparian and wetland management, water quality protection, recreation use, and land tenure adjustments.

Impact Analysis

In Alternative B 94,651 acres (6%) of public lands in the resource area would be closed to oil and gas and geothermal leasing. Of this acreage 65,131 acres are currently closed. All but 2,926 acres of split-estate lands (oil and gas) and 3,342 acres (geothermal), where the surface is privately owned, would be open to leasing.

Restriction of fluid mineral operations through seasonal or yearlong no surface occupancy would impact 533,659 acres (36%) of public lands in the resource area. Seasonal restrictions on operations would not seriously impede any future leasing activity and should provide adequate protection to wildlife resources. Nearly 124,000 acres are prescribed for yearlong no surface occupancy restrictions, which could have an adverse impact on leasing since there would be no practical way to explore or develop some of these lands. See Table FLUM-B for specific closures and restrictions.

Modifications to any future exploration or drilling program would usually be made to protect riparian and wetland areas and water quality without seriously impeding fluid mineral development. Protection of these resources would not likely have any serious impact on fluid mineral operations in the foreseeable future.

Recreation activities would generally be incompatible with fluid mineral exploration and development. Noise, dust and heavy machinery associated with drilling operations would adversely impact recreational opportunities on the public lands. Future drilling sites may have to be fenced off from nearby established recreation areas, such as campgrounds, OHV parks or trails for safety purposes. Access routes into fluid mineral development sites may have to be restricted or relocated to not interfere with certain recreation activities. Established recreation sites may require a buffer of public lands where development activities would be restricted to reduce disturbance to recreationists.

Land tenure adjustments would cause some minor shifts in the amount of land available for fluid mineral leasing.

Conclusion

The outlook for an active fluid minerals leasing and exploration program is poor. There would always be some interest in fluid minerals in southwest Idaho, particularly in low-temperature geothermal resources, but until energy prices are much higher then present or until new technology becomes available, no leasing activity is likely to occur. Large scale no surface occupancy restrictions may have a small adverse impact on any leasing interest in the southern part of the Resource Area. Overall, the impact of Alternative B on fluid minerals development would be favorable.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

Objective FLUM 1: Provide opportunities for exploration and development of oil and gas and geothermal resources on public lands by imposing the least restrictive leasing categories necessary to protect other resources.

The objective would be met in Alternative B.

Availability of Lands for Fluid Mineral (Oil and Gas) Activity Relative to Resource Potential - Alternative B

Management Constraint	Low Potential	Zero Potential	Total
Public Lands			
Open	748,378	92,170	840,548
Open-Seasonal Occupancy	263,000	147,000	410,000
Open-No Surface Occupancy	113,659	10,000	123,659
Closed	94,611	40	94,651
Split Estate			
Open	65,103	65,412	130,515
Closed	2,926	0	2,926

Availability of Lands for Fluid Mineral (Geothermal) Activity Relative to Resource Potential - Alternative B

Management Constraint	High Potential	Low Potential	Total
Public Lands			
Open	82,693	757,855	840,548
Open-Seasonal Occupancy	14,100	395,900	410,000
Open-No Surface Occupancy	340	123,319	123,659
Closed	65,303	29,348	94,651
Split Estate			
Open	840	129,259	130,099
Closed	3,122	220	3,342

MINERAL MATERIALS

Change Agents

Population growth; mineral withdrawals for certain wildlife areas, recreation sites, natural areas and ACECs; riparian and wetland management, recreation use and land tenure adjustments.

Impact Analysis

In Alternative B, 3,220 acres (7%) of public lands classified as having high potential for sand and gravel would be closed to disposal. This small area is not likely to seriously impede development of the area's mineral material resources. See Table MMAT-B for specific closures.

Protecting riparian areas and wetlands would require some restrictions on the development of mineral material sites, particularly along stream channels. Future material sites would likely be located along bench and terrace gravel deposits and alluvial fans away from any live water. Access roads into material sites may need to be relocated or engineered specifically to protect wetlands and riparian areas.

Recreation activities would generally be incompatible with mineral material development, at least during the extraction phase. Future material sources located near existing recreation sites may need to be fenced and gated for safety reasons. Access routes into material sites could be restricted or moved as to not interfere with certain recreation activity. Future campgrounds and related facilities should be located away from active material sites to avoid noise, dust and mine-related safety hazards.

Land tenure adjustments would remove a small amount of public land from availability as material sources.

Conclusion:

The overall impact of Alternative B on mineral materials management in the resource area is generally favorable for the development of these resources.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

Objective MMAT 1: Provide opportunities for use of common variety minerals obtained from the public lands.

The objective would be met in Alternative B.

RECREATION

Change Agents

Recreation use, OHMV designations, VRM classifications, special designations, recreation facilities, fencing, water developments, acquisition, vegetation treatments, locatable and fluid mineral activities and utility corridors.

Impact Analysis

Changes in the Availability of Recreation Opportunity Settings:

Alternative B would continue the existing array of recreation opportunity spectrum (ROS) settings available throughout the resource area, but would result in a shift in the amount of acreage available in each classification as shown below. ROS classifications are an expression of the type of experiences one can achieve while in an area with a combination of social, physical, and managerial settings. Settings are defined in terms of their remoteness, size, evidence of human use, social environment (amount of visitation or use), and management presence (facilities as well as personnel). See Table RECT-3 for details on each of the settings. Semi-primitive motorized settings would remain the predominate opportunity class covering about 54% of the resource area (about a 10% increase over that currently available). In the northern portion of the resource area (the Snake River and Jordan Creek geographic reference areas), roaded natural, rural, and urban settings would accompany semi-primitive motorized settings. Some semi-primitive nonmotorized settings would exist in remote mountainous areas.

Availability of Lands for Mineral Materials Activity Relative to Resource Potential - Alternative B

Management Constraint	High Potential	Moderate Potential	Total
Public Lands			
Open	40,080	1,210,573	1,250,573
Closed	3,220	215,065	218,285
Split Estate			
Open	1,370	131,029	132,399
Closed	20	1,022	1,042

To the south (Owyhee River geographic reference area), semi-primitive motorized settings would continue to isolate numerous pockets of semi-primitive nonmotorized settings across the open plateau areas. However, the availability of semi-primitive nonmotorized and primitive settings encompassing the Owyhee Canyonlands and the North Fork Owyhee River Backcountry SRMAs could be diminished. Over the long term, primitive settings could remain only in the most rugged canyonlands and rock outcrop areas. Also, in the south, roaded natural settings with some rural acreage would only be associated with the Owyhee Uplands National Back Country Byway and several connecting roadways.

ROS Classifications Availability In Alternative B (See Map RECT-1)

ROS Class	Total Acres in 1991	Percent of Resource Area in 1991	Percent of Resource Area in 2015
Primitive	234,940	13%	5%
Semi-Primitive Nonmotorized	386,150	22%	18%
Semi-Primitive Motorized	794,010	44%	54%
Roaded Natural	177,080	10%	12%
Rural/Urban	187,225	11%	11%
Total*	1,779,405	100%	100%

* All lands: BLM, State and private.

Management actions in Alternative B are projected to cause changes in ROS class acreages primarily within primitive and semi-primitive motorized and nonmotorized settings. Changes in classification could result from 1) new trail development allowed under off-highway motorized vehicle designations; 2) increased administrative access to new range improvements; 3) vegetation treatments (juniper harvesting); or 4) development of new roads or upgrading existing vehicle routes for mineral exploration and development.

Off-highway motorized vehicle (OHMV) designations prescribed in Alternative B would provide little restriction to motorized public use throughout the resource area. Long-term management of recreation vehicle use (Limited - Level IA, Level IB and Level IIA designations) could leave all existing roads, jeep trails, motorcycle/ATV trails, historically established (livestock and game) trails and sand washes available for OHMV use; prohibiting only unrestricted cross-country travel. (See Map RECT-1B.) Use of livestock and game trails could eventually lead to an increase in the availability of motorcycle/ATV trails as more remote livestock and game trails are developed by these vehicles. This would increase the availability of semi-primitive motorized experiences and reduce opportunities for primitive and semi-primitive nonmotorized experiences. The extent of the change in OHMV recreational experiences would be dependent upon the outcome of wilderness designation for wilderness study areas (WSAs) located within the resource area.

OHMV Designations for Alternative B (See Map RECT-1B)

Designation	Acres
Open	0
Limited - Level 1	0
Limited - Level IA	471,173
Limited - Level IB	370,511
Limited - Level 2	0
Limited - Level IIA	189,015
Limited - Level 3	0
Limited - Level 4	0
Limited - Level 4-IMP(IA)	288,952
Limited - Level 5	0
Limited - Level 6	0
Limited - Level 7	0
Closed	0
Total	1,319,651

While wilderness study lands remain under the BLM Wilderness Interim Management Policy (Limited - Level 4-IMP), little change in the availability of primitive or semi-primitive nonmotorized settings is projected in the Owyhee River geographic reference area. Wilderness designation would perpetuate these settings. However, OHMV activity under the Limited - Level IA designation that would occur in the absence of wilderness designation could result in the generation of new semi-primitive motorized travel corridors along what are now livestock and game trails that penetrate primitive or semi-primitive nonmotorized settings, thus converting these settings to semi-primitive motorized settings over the long term. Throughout the resource area, administrative routes to new range improvements are projected to be unconstructed jeep trails which could reduce the amount of primitive and semi-primitive nonmotorized settings available. Mineral development, such as that in the vicinity of Silver City, would change semi-primitive motorized settings to roaded natural settings with the construction of maintained gravel roadways. Recreational development would also contribute to increased roaded natural settings.

Should wilderness suitability recommendations as presented in the Owyhee RMP be accepted by Congress, 123,800 acres of public lands would be released from the IMP and made available for other multiple uses, including vegetation treatments. These treatments could substantially affect the naturalness of the Juniper Mountain area, converting primitive settings to mostly semi-primitive motorized settings. In the North Fork Owyhee River Backcountry SRMA/WSA, vegetation treatments could cause some reduction in naturalness in nonsuitable areas resulting in a shift toward semi-primitive nonmotorized settings. If no wilderness designation were to occur, additional losses in naturalness in the North Fork area are projected as more lands become available for vegetation treatments. The semi-primitive nonmotorized settings of the plateau lands in the Owyhee Canyonlands region (including nonsuitable WSA lands) could allow prescribed fire or wildfire rehabilitation projects (drill seeding) and energy and mineral exploration and development that affect the quality of semi-primitive nonmotorized experiences by reducing naturalness, but may not cause a change in ROS class. Some acreage of primitive settings around upper Nickel Creek would also shift to semi-primitive motorized or nonmotorized settings as a result of woodland treatment projects.

Impacts on Recreational Opportunities in Special Recreation Designations

Alternative B prescribes the reevaluation of all existing special recreation management areas (SRMAs) to determine whether the characteristics which prompted their special management attention continue to exist. Currently there are ten (10) special recreation management area (SRMA) designations totalling 312,801 acres in the resource area as shown below. Alternative B also prescribes the reevaluation of all river segments in the resource area to determine their suitability for national river designation. Previous river eligibility inventories documented in this RMP have found 223 miles of rivers and streams as eligible for further study to determine their suitability as national river designations. A National Park Service study in 1979 found the main stem Owyhee River and its East Fork tributary as suitable for a National Wild River designation. This designation has been forwarded to Congress for consideration.

Recreation Management Area Designations Subject to Review In Alternative B (See Map RECT-2B)

Recreation Management Area Name	Acres	
Owyhee ERMA	1,020,580	
Blackstock SRMA	6,149	
Jump Creek SRMA	8,667	
North Fork Owyhee SRMA	56,602	
Owyhee Front SRMA	180,940	
Owyhee Canyonlands SRMA	36,841	(5,627 additional in BRA)
Silver City SRMA	2,174	
Oregon Trail SRMA	7,305	
Snake River Birds of Prey SRMA	7,766	
Deep Creek SRMA	5,882	(5,918 additional in BRA)
North Fork Canyon SRMA	475	
Total SRMAs for Owyhee Resource Area	312,801	
Total in Owyhee Resource Area	1,333,381	
Total SRMAs for Bruneau Resource Area		11,545

Suitable River Segments (National Park Service, 1979) for Alternative B (See Map WSR-1)

SEG.#	Segment Name	Miles	Classification
S3a	East Fork Owyhee River	66.0	Wild
Total for Owyhee Resource Area		66.0	

The special designations that currently exist were established to ensure long-term protection of recreational opportunities dependent on predominately primitive and semi-primitive motorized and nonmotorized settings and, in some areas, roaded natural settings. In Alternative B, management actions prescribed for OHMV management and visual resource management (VRM) would provide continued protection for SRMAs intended to retain semi-primitive motorized and roaded natural opportunities (those of the Snake River and Jordan Creek GRAs). Prescribed OHMV and VRM classifications for SRMAs in the Owyhee River GRA could compromise the protection of primitive and semi-primitive nonmotorized opportunities by allowing for a potential increase in OHMV trail development. The primitive and semi-primitive nonmotorized settings most likely to be affected are those of the plateau areas around the Owyhee Canyonlands and Deep Creek and less rugged portions of the upper North Fork Owyhee River. Plateau trail development is projected to eventually lead to the penetration of the canyons of the Owyhee Canyonlands SRMA and Deep Creek SRMA by motorcycles and ATVs under the Limited - Level IA designation and VRM Class II classification prescribed in Alternative B. (Some unauthorized access by these vehicles is already occurring.) In the case of the North Fork Owyhee Backcountry SRMA, an increase in widely dispersed "dead end" vehicle trails is projected although trail penetration would be somewhat limited by rugged rock outcrop terrain in many places. There is little impact projected in the North Fork Canyon SRMA because of its topographic barriers.

Livestock management actions in Alternative B would allow increasing livestock numbers 11% overall which would notably increase the presence and evidence of livestock which could be offensive to some recreational users. Such an occurrence would be more tolerable in SRMAs where the intent is to retain semi-primitive and roaded natural settings (Snake River and Jordan Creek GRAs), but less tolerable in areas intended for the preservation of primitive and semi-primitive nonmotorized settings (Owyhee River GRA and some isolated areas of the Snake River GRA).

National river designation for 66 miles of river canyon on the Owyhee-East Fork Owyhee River in the Owyhee Canyonlands SRMA would include withdrawal of the affected lands from mineral entry. This would preclude any potential irretrievable loss of outstanding primitive recreational values through scenic degradation.

In summary, management actions in Alternative B have the potential to significantly degrade the characteristics for which the SRMAs in the Owyhee River GRA were given special management attention: characteristics which currently are judged to be of national significance. The SRMAs in the Snake River and Jordan Creek GRAs would have some degradation of their recreation resource values from OHMV designations.

Impacts on the Quality of Recreational Experiences

Management actions prescribed in Alternative B would not only result in a change in the availability of the various recreational opportunity settings in the resource area, but would also affect the overall quality of recreational experiences that would be obtainable in those settings.

Primitive experiences require a sense of remoteness, a vastness (size), and little or no evidence of human use. Semi-primitive nonmotorized experiences also require naturalness and solitude but to a somewhat lesser degree. Currently, recreational users seek out the canyonlands and some adjoining plateau and rock outcrop landscapes of the Owyhee River system (Owyhee River GRA) for primitive and semi-primitive nonmotorized recreation experiences. In Alternative B, these lands are prescribed for mostly Class II visual resource management (VRM) where management actions would be allowed if they cause only a slight adverse effect upon the scenic quality of the landscape. No recreation management actions are prescribed in Alternative B within VRM Class II areas which would help retain or enhance primitive or semi-primitive nonmotorized values. Alternative B, through its OHMV designations could eliminate or degrade the overall quality of primitive and semi-primitive nonmotorized recreation values by providing for increased semi-primitive motorized opportunities without necessarily degrading scenic quality to a significant degree. OHMV trail development for recreation use, or in some cases access to new rangeland facilities, could potentially cause 50% of these settings to be replaced by semi-primitive settings as OHMV trails penetrate natural areas. An 11% increase in the presence and evidence of livestock would foul campsites as well as adversely affect the hiking experience.

In the semi-primitive motorized settings of the Owyhee Front (Snake River GRA), equestrians seek out areas more or less isolated from OHMV activity to enjoy horseback riding experiences (mostly day-use currently). A few areas of semi-primitive nonmotorized settings and one remnant primitive area (upper East Fork Sinker Creek area) are also used by equestrians on a regular basis. The OHMV designations in Alternative B for the Owyhee Front (Limited - Level IB and IIA) would make such isolated areas exceedingly more scarce as more animal trails become OHMV trails.

In areas historically managed for semi-primitive motorized or roaded natural settings, prescribed OHMV designations and VRM classifications would continue or enhance existing experiences, but could lower the quality of the experience for some visitors in certain areas.

In Alternative B, no lands would be “Open” for cross-country travel. About one-third of the resource area is currently under this designation. All OHMV use in Alternative B would remain on existing roads, jeep trails, motorcycle/ATV trails, historic (livestock and game) trails and sand washes. Under current management (see Alternative A), only the Owyhee Front (Snake River GRA) offers an OHMV experience similar to this, except livestock and game trails are not authorized for use though many have been used. With implementation of Alternative B, it is projected that there would be an immediate and substantial increase in the number of new motorcycle/ATV trails generated from the conversion of animal trails to vehicle trails. This would occur because of the presence of the" ORV" user and because many vehicle trails on the Owyhee Front are deteriorating, thus encouraging "trail riders" to use the newer trails. Increasing levels of trail use, continued trail deterioration, and a substantial reduction in the overall visual quality of the Owyhee Front lands would eventually degrade the recreational quality of these lands for the "trail riders" and cause them to seek other lands (USFS lands to the north or BLM lands to the south) for quality experiences. The "ORV" users would largely remain in the area. Some "trail riders" consider trail areas in the vicinity of the Hemingway Butte and Rabbit Creek OHV Trailheads of insufficient quality to ride. The overall effect of the resource area OHMV designation would be a gradual shift in OHMV use to the south into the higher elevation areas. The Owyhee Mountain Range is currently experiencing the effects of this shift as more and more motorcycle/ATV trails are appearing. The Silver City area has been particularly affected because of a resident summer home population, the notoriety of the area and its accessibility.

As OHMV use increases to the south, more and more areas would develop motorcycle/ATV trails that would network with the existing dirt road/jeep trail system. This increased network would enhance the quality of the OHMV experience by increasing the availability and diversity of riding opportunities. This increased network of dirt road and jeep and motorcycle/ATV trails is eventually projected to reach the Owyhee Canyonlands SRMA, including its south and east rimrock areas.

Other recreation management actions in Alternative B pertaining to development and maintenance of recreation facilities (campgrounds, picnic areas, OHMV trailheads) in semi-primitive motorized and roaded natural settings would provide increased choices in access opportunities without substantially affecting the natural or aesthetic character of the landscape, but would contribute to increased site-specific recreation use. The affected semi-primitive and roaded natural settings would generally be managed as VRM Class II and III areas. Some modifications of the natural landscape would be permissible within these ROS and VRM classifications, particularly if they enhance recreational experiences.

Projected increases in visitor use would not adversely affect the quality of recreational experiences through the year 2015 by causing a sense of crowding or by contributing to the deterioration of the natural landscape, except in the semi-primitive/roaded natural settings of the Owyhee Front and potentially in the primitive settings of the Owyhee River GRA. Rapidly increasing use of the Owyhee Front would limit BLM's ability to reduce or prevent resource deterioration of undeveloped sites on an overall basis. Localized vandalism, unauthorized OHMV use and maintenance of OHMV trails would likely remain the principal cause of resource deterioration and facility damage at already developed sites such as Jump Creek and the off-highway vehicle trailheads and their surrounding areas. Alternative B would allow for additional developments but would not give direction as to specific locations or purposes for sites in the Snake River GRA (Owyhee Front). In the remainder of the resource area, existing developed sites and development of several small additional sites would be adequate to meet recreational demand through the year 2015. The projected reduction (50%) in available primitive and semi-primitive nonmotorized settings could generate localized concentration (crowding) situations for these user groups over the long term and their displacement to other areas of southwest Idaho.

Alternative B would result in additional range improvement projects at a rate lower than that experienced between 1981 and 1991. New projects are projected to include emphasis on pasture fences and, to a lesser degree, wildlife and riparian exclosures. One of the recognized qualities of the resource area is its opportunity for a free-roaming experience. In Alternative B, the OHMV user of established jeep and motorcycle/ATV trails would be subjected to a further increase in pasture fence encounters and to some riparian exclosure fences at stream crossings. The pedestrian user would also find some additional fences hindering access along stream channels for nonmotorized activities. Cattleguards would partially mitigate impacts on semi-primitive motorized recreation as well as assure exclosure integrity. Therefore, rangeland facilities are projected to have only a slight to moderate adverse impact on the free-roaming experience found in the semi-primitive settings of the Owyhee Resource Area.

A number of fence gates define legal divisions between federal and private property where the public has no right of passage. Many of these gates can be locked, particularly during the hunting season. Land actions (acquisitions of easements or fee title, and exchanges) in Alternative B would allow for some public access where locked gates or signing currently prevents access to large blocks of public land.

Impact analysis for riparian resources in Alternative B indicates that the riparian objective would be met on 31% of the riparian miles. Prescribed grazing systems and minimal exclusion of livestock from riparian areas would not produce overall terrestrial wildlife habitat conditions that could help reduce wildlife population fluctuations derived from cyclic climatic conditions and encourage population increases. Only small long-term population changes are projected to occur in aquatic (fishery) resources. Consequently, no notable change in hunting or fishing opportunities is projected in Alternative B because of the relatively small improvement in riparian conditions. Alternative B also identifies treatment of 458,693 acres (one-third of the resource area) with prescribed burning, seeding and woodcuts to control the spread of seral juniper or to reduce sagebrush competition with grass species on sagebrush-bunchgrass ecological sites. The level of vegetation treatment and livestock use could adversely affect mule deer and sage grouse populations over the long term, yet allow an increase in antelope populations. Therefore, upland game and mule deer hunting opportunities are projected to decline as antelope hunting opportunities increase. In summary, Alternative B would generally be somewhat detrimental to overall hunting opportunities over the long term while fishing opportunities would remain about the same.

The woodland treatments (totalling 110,410 acres) would degrade the scenic quality of the landscape and, in the case of woodcutting, the landscape's natural character. Adverse visual impacts could last as long as 50 years depending upon the age class of seral juniper stands being treated (see visual impact analysis). During this period, the quality of recreational experiences would be diminished. Woodland treatments would be concentrated in the Jordan Creek GRA and northern portion of the Owyhee River GRA, mostly within VRM Class III and IV areas. Numerous treatments in this region through the year 2015 would have a cumulative effect on the quality of recreational experiences of all types within predominately primitive and semi-primitive motorized and nonmotorized settings and, to some extent, roaded natural settings. Woodland treatments could reduce the amount of acreage in primitive settings within the resource area from 13% to 10% if nonsuitable WSA lands are released from Wilderness IMP. In semi-primitive motorized settings, reduced natural and scenic character may be tolerated more readily by hunters (a primary user group) in light of an improved antelope population. Those using roaded natural settings along such roads as the Owyhee Uplands National Back Country Byway would have their recreation experiences most affected because sightseeing and pleasure driving activities on these roads are highly scenic dependent. In time (25 to 50 years), visual effects of treatments would be largely gone and the quality of the recreation experiences would be restored or enhanced. Reburns of treated areas are projected to occur on a regular basis. Reburns would have minimal visual impact after several growing season because larger trees would generally not be involved, thereby having little long-term effect on recreational experiences. For prescribed burn projects affecting mostly semi-primitive motorized and nonmotorized settings found on sagebrush-grassland ecological sites outside of the woodland region (about 349,000 acres), the burn and possible subsequent drill seeding would not affect visual quality over the long term, but would somewhat reduce naturalness to the detriment of semi-primitive nonmotorized experiences.

Concerns for vegetation and watershed protection in Alternative B could have a long-term effect on the availability of OHMV trails in select areas of the roaded natural and semi-primitive motorized settings of the Owyhee Front SRMA. It is projected that a number of miles of trail would eventually have to be closed temporarily or permanently to stabilize or reverse erosion caused by off-highway vehicle use. To mitigate the adverse impacts on OHMV recreation from trail closures, new trails could be considered in less sensitive areas.

Alternative B would allow for locatable and fluid mineral exploration and development activities. Most locatable mineral activities affecting recreation use are projected to be concentrated in the Silver City area and, to a lesser amount, the Owyhee Front. Mineral development in the DeLamar and Florida Mountain area would result in a change in ROS class from semi-primitive motorized to roaded natural and would reduce the quality of surrounding semi-primitive experiences. Mining activities would preclude public use in much of the roaded natural setting for safety reasons during the time of mine operation. The quality of semi-primitive recreation experiences on lands immediately surrounding the mine operation would be reduced by visual and audio intrusions. For more detail on the DeLamar and Florida Mountain mineral activities, refer to the Stone Cabin Mine EIS. Additional mine sites are projected to be developed in the Silver City area resulting in a cumulative impact on recreational experiences ranging from exclusion, restricted access and degradation of natural and scenic qualities. Other mineral activities such as exploration for oil and gas could also result in new roaded natural corridors and cause localized reductions in the quality of recreational experiences in the semi-primitive motorized settings of the Owyhee Front and primitive or semi-primitive nonmotorized settings in the Owyhee Canyonlands region.

To protect the high quality of primitive recreational experiences in the suitable wild river canyon of the Owyhee-East Fork Owyhee River canyons from the effects of potential mineral exploration and development, Alternative B recommends withdrawal of the affected lands from mineral entry. The remaining eligible river segments would not receive withdrawal protection.

Should Congress not accept the national river or wilderness recommendations, the absence of such designations for lands adjoining the Paiute (El Paso) Gas Pipeline crossing of the East Fork Owyhee River could result in development of a high voltage powerline utility corridor in the Owyhee Canyonlands region. Such development would result in new roaded corridors and would eliminate or severely diminish primitive and semi-primitive nonmotorized recreation opportunities on surrounding canyon and plateau lands of the WSA complex. Development would also reduce the quality of semi-primitive motorized recreation opportunities on surrounding plateau lands (see the Owyhee Canyonlands Wilderness EIS for details).

Conclusion

Alternative B would provide for intensive management of recreation resources and recreation use on 312,801 acres in ten (10) special recreation management areas (SRMAs). Prescribed OHMV designations and VRM classifications could reduce recreation values in certain areas. One such area would include the National Park Service's recommendation for congressional designation of 66 miles of river canyon along the Owyhee and East Fork Owyhee River as a National Wild River. Alternative B would place restrictions on off-highway motorized vehicle (OHMV) use to protect or enhance OHMV opportunities in the resource area as a whole, yet the OHMV designations could eventually eliminate 50% of the existing primitive and semi-primitive nonmotorized opportunities (Owyhee River GRA), as well as cause some loss of quality in semi-primitive motorized experiences along the Owyhee Front (Snake River GRA).

The majority of the resource area (54%) would remain or change to semi-primitive motorized settings. Woodland treatment projects would eliminate some primitive settings (the amount depending upon wilderness designation) and moderately to severely reduce the quality of semi-primitive recreational experiences until affected lands have recovered (25 to 50 years). In the long term, vegetation treatment projects could improve the quality of semi-primitive recreational experiences except for overall hunting and fishing opportunities. Overall hunting opportunities could somewhat decline over the long term. The continued development of fences could slightly to moderately reduce the quality of the free-roaming experience found in semi-primitive settings.

Burning and seeding projects on sagebrush plateau lands could reduce the quality of semi-primitive nonmotorized experiences as well as eliminate some primitive settings (the amount depending upon wilderness designation). There is also the potential for reductions in the quality of primitive and semi-primitive recreational experiences from energy exploration and development should wilderness or wild river designation not occur along the East Fork Owyhee River. Within the Snake River and Jordan Creek GRAs, mineral activities would severely reduce the quality of semi-primitive recreational experiences and result in the shift of some semi-primitive motorized recreation settings to roaded natural settings.

Meeting the Objectives

Objective RECT 1: Provide for off-highway motorized vehicle (OHMV) use on public lands while protecting sensitive resource values.

Off-highway motorized vehicle designations in Alternative B would not meet the OHMV objective because, while providing for improved OHMV opportunities throughout the resource area, they would cause a 50% loss in nonmotorized opportunities and would not adequately protect sensitive resource values, particularly in the Owyhee River GRA.

Objective RECT 2: Provide special management attention to areas of public land with identified special recreational, scenic, and cultural values where current and projected recreational demand warrants intensive management.

The special recreation management areas identified in Alternative B would not fully contain those lands needing special attention because of intensive recreation use and conflicts with sensitive resource values, particularly in the Snake River GRA. In addition, Alternative B prescribes OHMV designations and VRM classifications which may compromise the primitive and semi-primitive nonmotorized recreation opportunities and natural resource values of SRMAs in the Owyhee River GRA.

Objective RECT 3: Determine the suitability of all eligible rivers and streams for inclusion in the National Wild and Scenic Rivers System.

Alternative B would provide permanent protection on only 30% of the eligible river miles in the resource area under a suitable recommendation for the main canyon systems of the Owyhee River and East Forks Owyhee River. Other river segments considered to have highly significant national river values would not be recommended as suitable for designation.

Objective RECT 4: Provide for high quality recreational opportunities and experiences at developed and undeveloped recreation sites by maintaining existing amenities (roaded natural, urban and semi-primitive motorized settings) and by providing new recreation sites for the public's enjoyment, with emphasis on roaded natural and semi-primitive motorized settings.

Alternative B would provide for developed recreational experiences at existing sites throughout the resource area but would provide no direction in development of new recreation sites except those associated with roaded natural and primitive settings in the Owyhee River GRA. Alternative B would not adequately address the need for recreation site development in the Snake River GRA where recreation use is projected to be most significant during the next 20 years.

Objective RECT 5: Develop a trail system that provides a range of motorized and nonmotorized recreation opportunities for the public's enjoyment of primitive, semi-primitive nonmotorized, semi-primitive motorized and roaded natural settings.

Alternative B would not adequately address this objective because it would provide no direction in the development of nonmotorized trail opportunities. In addition, prescribed OHMV designations would significantly reduce the opportunity to develop nonmotorized trail systems. There would be no recreation facility (trail) development in the Snake River GRA to address increasing recreation demand for more diverse recreation opportunities.

Objective RECT 6: Pursue increased public access opportunities in motorized and nonmotorized settings through the acquisition of fee titles or recreational easements (willing landowners only).

The easement acquisitions prescribed in the Lands section of Alternative B would fully meet this objective.

Objective RECT 7: Retain at least 10% of the Owyhee Resource Area in a primitive recreational opportunity (ROS) setting.

Alternative B would not meet this objective because of OHMV designations and VRM classifications which compromise the long-term protection of existing primitive settings. Alternative B could result in about a 70% reduction is these settings; reducing primitive settings in the resource area from 13% to 5% of the total land area.

WILDERNESS

Change Agents

Vegetation treatments, fencing, water developments, OHMV designations, VRM classifications, utility corridors, and locatable and fluid mineral activities.

Impact Analysis

The 294,740 acres of wilderness study areas (WSAs) in the resource area (see Map WNES-1) are required to be managed under BLM's Wilderness Management Policy (IMP) to protect their wilderness characteristics; naturalness, and outstanding opportunities for primitive recreation or solitude. The IMP prohibits taking any action considered to adversely affect a WSA's suitability for congressional wilderness designation. An action is considered an impairment of wilderness suitability if: 1) it individually, or when considered collectively with other existing human imprints, makes the imprints of man substantially noticeable to a casual observer in the WSA as a whole, and/or 2) the action reduces the value of the WSA for wilderness as compared to other land uses.

In Alternative B, as with all other alternatives, the recommendation for congressional designation of 195,980 acres of public lands as wilderness is being carried forward. Within this acreage are 3,890 acres of non-WSA, Section 202 FLPMA study lands which have also been recommended for wilderness designation. Unlike WSA lands, Section 202 study lands are to be protected only from unnecessary and undue degradation under authority of Section 302 of FLPMA.

Should Congress designate wilderness, those areas would be managed under the BLM Wilderness Management Policy (September 24, 1981) to preserve and enhance wilderness values. Management for specific wilderness areas would be determined through development of wilderness management activity plans which are generally required to be submitted to Congress within two years after wilderness legislation. The Owyhee RMP does not give specific direction for management of potential wilderness areas and the environmental consequences of wilderness designation are not presented in this document. The environmental impacts from wilderness designation were presented in the Owyhee Wilderness Plan Amendment EIS and the Owyhee Canyonlands Wilderness EIS. The impact analysis in these documents reflects possible management scenarios for wilderness areas prescribed by the BLM Wilderness Management Policy.

To assess the long-term impacts on wilderness values in Alternative B, one must look at both prescribed management scenarios for affected WSA lands while under the IMP as well as prescribed actions which could affect wilderness values if wilderness designations do not occur.

Alternative B provides direction for management of wilderness values through identification of various visual resource management (VRM) classifications and off-highway motorized vehicle (OHMV) designations. Alternative B calls for interim classification of all WSA lands as VRM Class II areas where lands must retain their essentially natural and scenic character. To contribute to the retention of each WSA's overall naturalness, all affected WSA lands would have an OHMV Limited - Level 4-IMP(IA) designation where vehicle use would be confined to existing roads and jeep trails yearlong. Should WSA lands not be designated wilderness, OHMV use would be allowed on existing roads, jeep trails, motorcycle/ATV trails and historic (livestock and game) trails. This change in OHMV designations would encourage an increase in OHMV activity on lands currently possessing wilderness values (primitive and semi-primitive nonmotorized settings) in the Owyhee Canyonlands, Juniper Mountain and North Fork Owyhee Backcountry areas. While increased OHMV activity would probably not seriously alter the overall scenic quality of affected WSA lands, the imprints of man could become more noticeable in each WSA as a whole (converting recreation settings to semi-primitive motorized) and could contribute to localized reductions in scenic values in select areas. The areas most likely to be affected are the plateaus surrounding the Owyhee Canyonlands and Deep Creek, and the less rugged portions of Juniper Mountain and the North Fork Owyhee Backcountry areas. (Despite interim protection, some rimrock OHMV trails have already appeared along the South Fork Owyhee River canyon.) Some penetration of the Owyhee Canyonlands and Deep Creek canyon can eventually be projected as OHMVs enter these canyonlands through side draws or down the more moderate slopes that are tucked into landscapes of mostly sheer cliffs. It is on the canyon slopes where there is the greatest concern for scenic quality degradation from OHMV trails. In the less rugged portions of the rock outcrop areas of the North Fork and Juniper Mountain, OHMV trails are likely to eventually develop through interconnecting draws among the outcroppings until they dead end at the rimrocks of the larger interior canyons.

The VRM Class II areas not only recognize the need to prevent indiscriminate OHMV trail development, but also signal a need to control authorization of new rangeland improvement so that such projects do not become substantially noticeable in each WSA as a whole. Alternative B allows for new rangeland facilities which are "nondegrading" or non-impairing in order to aid in riparian restoration efforts. To achieve riparian recovery in Alternative B, riparian fencing may have to be built in allotments affected by WSAs to exclude livestock from stream corridors and additional alternative water sources (reservoir or spring development sites) would have to be provided. In the case of the WSAs, fencing would involve mostly rimrock fences, either as continuous runs or as gap fences. New reservoirs would have to be relatively shallow and have larger than average surface acreages and adjacent borrow areas because of marginal site conditions (shallow soil depths and minimal topographic relief). This has been the case with projects constructed in the North Fork Owyhee River WSA and some Owyhee Canyonlands WSAs between 1982 and 1990. Many of the IMP reservoirs have had limited success because of their shallow depth or underlying soil structure problems. The reservoirs tend to dry up early and are of little value in supporting rotation grazing systems that includes late-season use in affected pastures. Some people consider the rangeland facilities (both fences and reservoirs) already placed in the WSAs "impairing" and such could also be the case for future developments.

If WSAs were congressionally released from IMP without wilderness designation, the VRM Class II areas in Alternative B would likely receive impacts as described above. The same impacts and more could also occur on VRM Class II-IMP lands in Alternative B. These lands would convert to VRM Class IV areas after congressional release. In this visual classification, a broader range of rangeland projects (livestock, wildlife, and watershed) could occur. In the Juniper Mountain WSA complex (all WSA lands on the mountain are currently found nonsuitable), Alternative B prescribes clear-cutting seral juniper woodlands in order to restore grass, forb, and shrub species to sagebrush-grassland ecological sites. New pasture fences and spring developments are also identified to support livestock management practices. Stream channel stabilization projects, which involve lining streambanks with juniper trees, could also occur. New roads and jeep trails would be generated as a result of woodland cutting projects. As previously described, the OHMV Limited - Level 4-IMP(IA) designation would allow for continued use of these new vehicle routes as well as others. Overall, at least 12,900 acres of nonsuitable public land in the Juniper Mountain WSA complex would have substantial losses of wilderness characteristics before riparian fencing impacts are even considered. The extent (acreage) of these impacts cannot be projected at this time because it would depend largely on where new riparian fences, reservoirs and spring developments would be placed. It is projected that vegetation treatment projects, OHMV activity and fencing and water developments would reduce remnant "natural" areas to substantially less than 5,000 acres (the minimum acreage required for BLM wilderness in most cases); thus causing the entire 44,780 acres of the Juniper Mountain WSA complex to lack wilderness values.

Impacts on wilderness characteristics from rangeland facility development similar to those of the Juniper Mountain WSA complex, but less extensive and severe, are projected to occur in the juniper woodland areas of the North Fork Owyhee River WSA. The North Fork WSA could retain its special recreation management area (SRMA) designation should Congress not accept the BLM's wilderness recommendations. Since much of the SRMA designation would continue to be managed to VRM Class II standards, woodland treatment projects (with accompanying access roads and trails) and fences are projected to be less numerous in order to retain a more natural landscape. However, the level of potential development is projected to be greater than would occur with wilderness designation where a VRM Class I standard would be imposed. Overall, including adverse impacts from OHMV recreational trail development, nearly 20,000 acres of the North Fork WSA would see moderate to severe losses of wilderness characteristic in Alternative B with some remnant "natural" areas remaining. These remnant areas would not be found in the main travel corridors (stream corridors and accompanying rimrock areas) projected to be used by the recreating public. Remnant areas would likely not be larger than 5,000 acres; thus causing the entire WSA (50,865 acres) to be without wilderness values.

VRM Class II-IMP and OHMV Limited - Level 4-IMP(IA) actions also pertain to the plateau lands of the Owyhee Canyonlands WSA complex. For these affected WSA lands, the change in VRM and OHMV management following IMP release is projected to result in activities that would substantially compromise existing wilderness characteristics. When reductions or losses of wilderness characteristics occur, they would likely result from mechanical drill seeding of some lands affected by prescribed fire or wildfire, OHMV recreational trail development along the canyon rimrocks and into the canyons, and some reservoir developments. The OHMV and reservoir development impacts have been previously described. The mechanical seeding process leaves behind a cultivated appearance to the landscape that could exist for many years. Details concerning prescribed fire and seeding project impacts on wilderness characteristics in the Owyhee Canyonlands WSA complex are discussed in the various alternatives presented in the Owyhee Canyonlands Wilderness EIS. From development scenarios provided by the Owyhee Canyonlands Wilderness EIS, and accounting for increased opportunities for OHMV recreational trail development and water developments, it is estimated that as much as 173,060 acres of the Owyhee Canyonlands WSA complex in the resource area could eventually have diminished wilderness characteristics (naturalness, solitude and primitive recreation values) over the long term; leaving only the canyonlands area (29,925 acres in the resource area) with wilderness characteristics.

There are two additional types of actions which could occur in Alternative B in the absence of wilderness designation: utility corridor development, and locatable and fluid mineral activities. There is a high probability for establishment and development of an enlarged and less restrictive utility corridor along the Paiute (El Paso) Gas Pipeline which runs north-south through the Owyhee Canyonlands WSA complex just west of the Duck Valley Indian Reservation. The existing corridor is one-mile wide south of Garat Crossing and use is currently restricted to underground developments only in the vicinity of the WSAs. The corridor is one of several routes which has been identified for future planning of high voltage powerlines to service interstate electrical needs of the western United States. Development of such a corridor, in the absence of wilderness or wild river designation for the East Fork Owyhee River, would severely reduce or eliminate wilderness characteristics on 10,330 to 10,760 acres of WSA plateau and canyonlands adjoining the Paiute (El Paso) Gas Pipeline (WSA ID-16-49D and WSA ID-16-52), some of the same lands that could also be affected by the other adverse impacts previously described. Refer to the various alternatives presented in the Owyhee Canyonlands Wilderness EIS for details on the Paiute (El Paso) utility corridor.IV-B-30

There is potential for locatable and fluid mineral exploration and development in the

Owyhee Canyonlands WSA complex. Though currently identified as having low mineral development potential, there is a low to moderate possibility of some level of exploration activity associated with geological structures within or immediately adjacent to the river canyons. Despite the "unnecessary and undue" standards required by the 3809 regulations, any customary activity of an exploratory nature into the canyon walls of the Owyhee River system could cause irretrievable and irreversible impacts on wilderness characteristics (naturalness and outstanding opportunities for primitive recreation) on at least a localized basis in a location at the heart of the wilderness complex; potentially visible to river floaters who make use of the upper Owyhee River system in the three-State area of Oregon, Idaho and Nevada. The potential for extreme degradation of naturalness in steep topographic areas from "exploration" activities has been well demonstrated by the exploration of Florida Mountain near Silver City (see visual impact analysis). For details concerning the potential impacts from mineral activity along the Owyhee River refer to the various alternatives presented in the Owyhee Canyonlands Wilderness EIS (mineral scenarios were only developed for Oregon WSA lands in this EIS because more information was available on the favorability of mineral development). As with utility corridor development, the potential for mineral development in the absence of wilderness designation is subject, in part, to congressional action on wild river suitability recommendations for the East Fork Owyhee River. There is also the potential for exploration and development of oil and gas reserves on the plateau lands of the Owyhee Canyonlands WSA complex. These are the same lands which could be affected by prescribed fire and seeding projects and OHMV activity. According to scenarios developed for the Owyhee Canyonlands Wilderness EIS, as much as 5,100 acres of BLM lands could be at least temporarily affected by energy exploration.

Conclusion

Implementation of Alternative B would not ensure the protection of WSA lands while they remain under the BLM Wilderness IMP. The interior stream and river corridors of most or all WSAs could potentially have their wilderness characteristics compromised or eliminated by fence and reservoir development to aid in riparian recovery. In the event of no wilderness designation, there is a moderate to high probability that as much as 268,705 acres of WSA lands in the resource area would experience a moderate to substantial lost of wilderness characteristics; with wilderness characteristics remaining only within the Owyhee Canyonlands (29,925 acres). The loss of wilderness characteristics would result from OHMV activities, rangeland facility development and vegetation treatment projects with some possibility of utility corridor development and mineral exploration and development contributing to the loss.

Meeting the Objectives

Objective WNES 1: Manage wilderness study areas so as not to impair their suitability for potential designation as wilderness.

Alternative B could not be carried out in compliance with the BLM's Wilderness IMP Policy. Alternative B could result in the loss of wilderness characteristics in portions of every WSA. The estimated level of rangeland facility development needed for riparian recovery would make the imprints of man substantially noticeable in each WSA as a whole. The new facilities in combination with projected increases in livestock use (about 30% resource area wide) would alter the relative value of WSA lands for livestock grazing over their value for wilderness preservation. Consequently, Alternative B would impair the suitability of WSAs in the resource area for potential wilderness designation.

Objective WNES 2: Following any enabling legislation, manage designated wilderness areas to ensure an enduring wilderness resource.

Alternative B is applicable to the Owyhee RMP only after congressional wilderness designation of select Section 603 and 202 study lands in the resource area. Any activity plan required because of wilderness designation would have to have the protection of wilderness values as its primary objective.

VISUAL RESOURCES

Change Agents

Vegetation treatments, fencing, water developments, watershed stabilization projects, wildlife guzzlers, recreation facilities and OHMV activities, locatable and fluid mineral activities and utility corridors.

Impact Analysis

Alternative B prescribes managing all public lands in the resource area under one of four visual resource management (VRM) classes ranging from VRM Class II to Class IV as shown below (see Map VISL-B).

VRM Class	Acres
VRM Class I:	0
VRM Class II:	298,376
VRM Class II-IMP:	124,810
VRM Class III:	146,881
VRM Class IV:	749,584

VRM Class II would be the most restrictive class in Alternative B where the intent is to retain an essentially natural landscape. Class IV would allow substantial changes to the characteristic landscape. These classifications are defined in detail in Appendix VISL-1. Alternative B would not allow for any VRM Class I areas where pristine natural conditions would be preserved in the absence of wilderness designation. Any wilderness designation, however, would mandate VRM Class I for all affected lands.

It is the intent of VRM Class II management under current management (see Alternative A) to allow some development which is in harmony with the natural landscape. Developments could occur in VRM Class II areas if they are substantially unnoticeable to the casual observer. In Alternative B, greater latitude could allow for increased rangeland facility developments. The IMP encourages preservation of WSAs, or portions of WSAs, where pristine conditions exist. The association between IMP for wilderness resources and VRM Class objectives is discussed in detail in the wilderness impact analysis. In summary, impacts on the scenic quality of WSA lands would be least in Alternative B as long as the VRM Class II-IMP classification stays in effect. If WSA lands are released from the IMP, the visual quality of some WSA lands could be affected in the same manner as projected below for the various project developments identified in the other three VRM classifications prescribed in Alternative B.

Visual impacts would be most extensive from the implementation of vegetation treatment and rangeland facilities (riparian fencing and reservoir projects) in VRM Class II, III and IV areas. The degree and longevity of visual impacts from such projects is dependent upon the type of vegetative community involved.

Vegetation Treatments

In the juniper woodland communities (predominantly in the Jordan Creek and the northern half of the Owyhee River geographic reference areas), visual impacts would occur from prescribed fires in seral juniper stands and from harvesting seral stands for fuelwood. Alternative B prescribes burning up to 440,603 acres over the next 20 years, about 22,000 acres per year. About 21% of this (92,320 acres) would be within juniper woodland communities. In addition, commercial harvesting of juniper fuelwood is approaching 600 acres per year and could approach 1,000 acres per year by the year 2000. Cutting and burning could affect many of the fuelwood harvesting areas.

Within harvest areas, during the cutting period and for a number of years afterwards, the scenic quality of affected clear-cuts would be substantially reduced by a nearly continuous scattering of slash piles, numerous stumps about 8 inches in height, and constructed roads and jeep trails. The textures and colors of clear-cut areas would contrast sharply with those of surrounding woodland communities or the remanent sagebrush-grassland communities. However, the general shape or form of the clear-cut openings and the line defining them would mimic that of natural openings found throughout the woodland region. As a result, the adverse impacts on visual quality would diminish as the viewing distance increases. Once the viewing distance reaches several miles (beyond foreground viewing) and the presence of slash is not readily discernible, the visual impact would be minimal. As the clear-cuts regain an abundance of new understory vegetation (grasses, forbs and shrubs), and needles and bark fall from slash piles, the casual observer would not be readily able to distinguish between natural openings and clear-cuts. Mitigation of visual impacts for projects located in the background (generally greater than 3 miles) could be hastened through the use of post-cut prescribed fire. The fire would add a temporary (3 to 5-year) adverse impact on the landscape by blackening it, but would remove the contrasting cutting debris.

The duration of adverse impacts from a woodcut site viewed within the foreground (usually less than three miles) would be dependent upon whether the site receives a post-cut prescribed burn. Burns would generally occur from 2 to 5 years after tree harvesting. As with background viewing, the fire would generate its own adverse impacts on visual quality by adding a sharply contrasting black color to the landscape, but would eliminate the effects of slash piles. With the aid of wind, rain, snow and natural or planted revegetation, the visual effects from the blackened ground would disappear within 3 to 5 years. Only blackened stumps would remain as a reminder of the woodcutting. The stumps could remain for 20 years or more with their visual presence only being lessened by the growth of surrounding shrubs that provide screening. In the absence of a post-cut fire, which is projected to occur about 25% of the time, slash and stumps would be visible well beyond 20 years with stumps lasting 50 years or more.

With cutting and post-burn effects lasting from 10 to 50 years, and cutting projected to occur at a rate of about 600 to 1,000 acres or more per year, it is highly probable that juniper fuelwood harvesting could contribute to reduced scenic quality on about 18,000 acres by the year 2015. At that time, about half of the acreage (9,000 acres) would retain the severe, short-term adverse visual impacts projected while the remaining acreage would be in varying stages of recovery.

In juniper woodland communities where only prescribed fire would be used, the effects of fire on visual quality would also depend upon viewing distance as well as the size of the trees involved. When viewed from the foreground, burned areas would contain numerous charred to partially charred tree skeletons and blackened earth and rock. Visual quality would be severely degraded by contrasts in line, form, color and texture. The larger the trees involved, the greater the visual degradation would be. Partially burned trees could retain reddened dead foliage for 3 to 5 years. The reddish color may be seen for several miles, well into background viewing areas. Only after the needles have dropped would trees in close-background areas become indiscernible on the landscape. The presence of burned background trees would also be lessened as the blackened bark falls away to leave a light grayish wood color not readily detectable behind a back drop of sagebrush-grassland communities. This process could take more than 5 years. As in the foreground, burned larger trees would have more of a visual impact in the background areas by requiring greater viewing distances before becoming indiscernible. Foreground viewing of barkless tree skeletons would remain for as long as 50 years or more depending upon the size of trees burned.

Assuming at least a 5-year period before fire evidence would be reduced, and assuming that 4,600 acres of juniper woodlands would be burned each year independent of woodcut areas, it is highly probable that there would be as much as 23,000 acres of the woodland landscape showing the more severe adverse visual impacts from prescribed fire each year. By the year 2015, the woodland communities could cumulatively show another 69,000 acres of residual burned skeleton forests having a lesser adverse impact on visual quality. In summary, it is highly probable that as much as 92,000 acres would have some degree of visual degradation by the year 2015. Since prescribed burning would be done annually to control the juniper woodland community, visual impacts from burning would always be present. However, over time the degree of impact would lessen as reburns would be affecting smaller and smaller age and size classes of encroaching seral trees.

In those areas where prescribed fire would affect sagebrush-grassland communities, the visual impacts would be minimal and of short duration. Prescribed fires in these plant communities would eliminate old-age sagebrush and return the ecological site to an earlier successional stage. This would leave a vegetative mosaic of open grasslands intermingled with remanent stands of big sagebrush on deeper soiled swale sites or low sagebrush on shallower, often stony, low ridgeline sites. This intermingling of line, form, color and texture caused by the variety of vegetation and rocky soil profiles, often including low, meandering bedrock ledges or plateau breaks, would be considered more scenic than a homogeneous landscape of sagebrush. The adverse effects of fire in the sagebrush-grassland communities would come immediately after the fire, and for the following one to three growing seasons when the blackened evidence of the fire persists. The fires would leave behind few vegetation skeletons. Those present would be small (sagebrush) and would be rapidly broken down by livestock and wildlife passage, wind, rain and snow. Because of the rapid recovery of visual quality on sagebrush-grasslands, and the relatively small amount of acreage to be burned at scattered locations, prescribed fire is not projected to be a major contributor to the cumulative impact of vegetation treatments in the resource area.

Cumulatively for burning and cutting, it is projected that more severe adverse visual impacts would be found on a total of 32,000 acres per year after the year 2015. An additional 78,000 acres would show a lesser impact due to natural recovery. These impacts would occur predominantly in juniper woodland communities. This acreage is about 43% of the woodland communities. There is currently no way to quantify how many acres of viewshed would ultimately be affected, either as foreground or background, by vegetation treatments. But given the type of topography and vegetation present and the subsequently large viewsheds possible for any treatment site, some type of treatment site, whether detectable as such or not, would be visible from nearly any observation point on over 75% of the woodland region.

Alternative types of vegetation treatments (chaining or chemical spraying) would produce effects similar to those associated with cutting and burning. In the case of spraying, blackened trees would be absent yet reddened foliage and tree skeletons would persist. Chaining would uproot trees rather than leave behind stumps.

Fencing

Alternative B sets standards for construction of rangeland facilities to address public sensitivity to certain areas by establishing VRM classes. In VRM Class II areas, new range improvement projects should be less than those allowed in VRM Class III and IV areas in order to retain an essentially natural landscape. Existing projects would be reconstructed, if necessary, to meet a higher visual standard at the time of scheduled or required maintenance.

Alternative B identifies fence development to aid in riparian recovery. These fences would be riparian exclosures along one or both sides of a stream course, exclosures around developed springs and pasture division fences. Placement of fencelines across landscapes to exclude livestock from wetlands or to delineate and administer allotments and pastures would not directly affect visual quality, particularly in woodland areas. The fences would generally be unnoticeable on the landscape from short viewing distances. What would become noticeable would be the jeep and livestock and game trails which would eventually parallel one or both sides of the fenceline, and the differences in forage utilization that could result from differential levels of livestock use. The jeep trails would result from fence maintenance or off-highway vehicle recreation activities. These features could become substantially noticeable in what may have been an otherwise natural landscape. These effects are quite noticeable in the Owyhee Front SRMA where extensive OHMV use occurs and numerous miles of fence were constructed in the 1980s. Differences in forage utilization across fencelines can also produce a line separating the same vegetative community into two distinctively contrasting colors brought about by differences in the amount and type of forage consumed. The same effect, but more severe, can be caused by fenced seedings. There are examples of this throughout the resource area, particularly along fencelines which delineate boundaries between federal, State and private lands as well as highway rights-of-ways.

Stream riparian and spring development exclosure fences can cause both beneficial and adverse impacts on visual quality on a localized basis depending on location. These fencing projects usually include an exclosure fence to exclude livestock from the riparian area, a headbox buried beneath the ground to trap water, and a buried water pipe that extends outside the exclosure to a trough (usually green). Construction would result in minimal surface disturbance and lead to an overall improvement in vegetative cover within the exclosure. Lush riparian communities add to the visual quality of the landscape through increased diversity in line, form, color and texture, as well as contribute to increased water which reflects color. However, the physical isolation of riparian areas from livestock use can also contribute to concentrated trampling and removal of vegetation outside the exclosure fence. There is the potential to create "boxes" of riparian landscapes that could affect viewsheds along water courses. These visual conditions could be particularly acute in Alternative B with an overall 11% increase in livestock use. To mitigate this visual impact in sheer-walled canyon areas of the Owyhee River GRA, fences could be placed among the sheer topographic breaks that surround the canyons. Elsewhere, mitigation would be more difficult in predominately V-shaped drainages because fences would generally have to be placed in the bottomlands adjacent to the riparian areas, forcing livestock and game to trail along the fencelines. In these areas, fences could be constructed to not run in straight lines for any great distance, to not remain an equal distance from the stream course along the length of the riparian area, and to tie into prominent natural features where possible.

Livestock Reservoirs

As with fences, livestock water impoundments (reservoirs) can be designed to reflect concerns over visual quality depending upon the affected area's VRM classification. A higher visual standard would be achieved by emphasizing the use of line and form in the layout and construction and reconstruction of earthen dams. These two elements of the natural landscape would need to be mimicked during construction of the dam and impoundment area in order to successfully blend a reservoir into the natural landscape. Generally, the blending would require the use of curved lines to define a crescent-shaped, shallow-sloped dam form (the dam slopes to be of equal or lesser gradient than surrounding topography that defines the stream channel or draw). Such a dam would appear as a "natural" extension of surrounding topographic relief and would assure that the surface area of the impounded water appears as a small circular, oval or "teardrop" lake formation that harmonizes with the surrounding landscape characteristics. The presence of surface water would enhance the scenic quality of landscapes.

Restoration of native vegetation around the reservoir site could also lessen the visual impact of dam construction and surrounding surface disturbances by restoring the original landscape elements of color and texture. However, reservoirs, by their very purpose, concentrate livestock use which locally inhibits or prevents vegetation restoration. Vegetation restoration would also be difficult when borrow pits are used to construct dams. Borrow pits remove A and B soil horizons, leaving behind soil substrates that would be generally unsuitable for vegetative growth. These exposed substrate areas would not only reduce revegetation potential but usually would have a notably different color than surface soils which would make the dam site highly visible at greater viewing distances even though line and form standards would be met for the dam itself.

In VRM Class III areas, reservoir construction could occur without restricting numbers and attempts would be made to construct dams to the standards required in VRM Class II areas. Borrow pits could be used with discretion and top soils would be set aside to recover the pit area. In VRM Class IV areas, reservoirs could be constructed using more conventional methods with dam faces at 2:1 slopes (vertical:horizontal), straight lines defining the front of the dam as well as the water line behind the dam, and the use borrow pits. Such methods could introduce unharmonious straight, vertical or steep diagonally lines and "sharp" forms into the desert plateau landscape comprised of horizontal straight lines and subordinate curved or wavy lines and "soft" forms. However, in steep, mountainous terrain or draws, steeper diagonal lines and sharper forms may be appropriate to mimic terrain features. Since most of the resource area would be in VRM Class IV, this type of construction could continue to be the rule rather than the exception. However, there is currently a policy to build all new reservoirs to Class II standards whenever possible, allowing for deviation to the Class III and IV standards where necessary because of specific physical site constraints.

Pipelines

Water pipelines extending for many miles from the water source are often found in association with spring developments and wells. There is technology available to keep surface disturbances associated with laying pipelines to a minimum in deeper soil types. In shallower, rocky soils, bulldozed trenches could be required, thereby enlarging the linear disturbance which contributes to color, texture and line disharmony on the landscape. While disturbances could readily heal in many areas within 5 years, the pipeline would often parallel a maintenance road that would perpetuate the visual impact of the pipeline. The troughs used on pipelines would not be obtrusive, but could lead to the localized loss of vegetation from concentrated livestock use, somewhat reducing visual quality.

Watershed Stabilization Projects

Watershed stabilization projects would be used to secure eroding streambanks and prevent further erosion in side slope gullies, usually the result of concentrated grazing by livestock and recreation use. The projects would use unlimbed juniper trees to line stream channels (attached by steel cables) and rock gabion dams or wooden planks. Initial placement of these projects would include disturbance to riparian vegetation and soil areas or, in the case of juniper structures, would leave the stream lined with numerous, unsightly dead trees and an occasional exposed steel cable. Such disturbances would be short-lived. Disturbances associated with rock gabion dams would be mitigated by riparian vegetation regrowth and channel siltation in less than 5 years. Juniper logs would become imbedded in streamsides, as intended, within 5 to 10 years. Once vegetation is restored, usually to a degree beyond that present prior to the project, the affected stream channels would show an overall improvement in visual quality. The improvement would be attributed to the increased abundance, and sometimes diversity, of riparian vegetation. Increasing riparian vegetation along canyon bottoms would enhance the overall scenic quality of the landscape by enriching it with color and texture. These efforts could also improve the year-long abundance of surface waters that would enhance visual character.

Wildlife Guzzlers

Wildlife guzzlers would consist of a fence exclosure and an encatchment system that would look like a corrugated, square to rectangular piece of roofing set just above ground level. Such projects would usually be associated with dry climate areas of the Owyhee Front. As such they do not release water to generate riparian vegetation screening, but sagebrush and grasses could become dense within the exclosures. To mitigate the visual intrusion of these small projects, the guzzler sites could be painted a compatible color and placed to not draw attention within the affected viewsheds.

Recreational Facilities and Activities

Existing and prescribed recreation site developments in Alternative B would be few and widely scattered and generally would not affect scenic quality of the resource area as a whole. Recreation sites would be designed to reflect concern for the four basic elements of the characteristic landscapes found in their viewsheds; form, color, line and texture. The Owyhee Front OHV Trailheads and Jump Creek Recreation Site facilities would alleviate OHMV-generated soil damage, public health and sanitation concerns, and excessive soil damage caused by indiscriminate foot trailings in sensitive vegetation communities. All these factors are contributing to a decline in visual quality at frequently used recreation sites. Recreation site developments similar to the North Fork Campground development that could occur in Alternative B would initially affect the natural landscape. Yet, over the long term, these projects would reduce visual damage to recreation sites from concentrated recreation use as more and more people venture into the Owyhee Uplands plateau.

Implementation of Alternative B would result in a continuation of OHMV impacts such as those caused by hill climbing activities within the Owyhee Front SRMA (Snake River GRA). The change from a Limited - Level 1 designation to a Limited - Level IB and IIA would make the job more difficult. Additional OHMV trails are projected to develop, some of which would likely be steep hill climbs on what are now natural appearing foothills and buttes. Additional hill climbing areas in the Owyhee Front SRMA would be discouraged through education, enforcement and facility maintenance.

Elsewhere, visual impacts from unplanned, unmaintained trail development off the existing dirt road and jeep trail network would at first produce isolated reductions in scenic quality. Over time it would cause cumulative impacts throughout the Owyhee Mountain Range (Jordan Creek GRA), particularly around Silver City. Eventually, OHMV use would be projected to impact the more moderate canyon slopes of the Owyhee River system in the Owyhee River GRA. Outside of the Owyhee Front, financial resources to effectively manage OHMV activities under the Limited - Level IA designation prescribed for the resource area as a whole, and to maintain the OHMV trail system it would generate may not be adequate. Visual degradation caused by indiscriminate OHMV activity would go largely unchecked.

Energy and Mineral Development

Exploration activities for the Stone Cabin Mine, at the upper northwest elevations of Florida Mountain on the south side of the Jordan Creek watershed near Silver City, have left behind a mountain top partially devoid of vegetation and reshaped into a series of cut-and-fill terraces. The operation would result in removal of about 135 feet of the mountain's northwest top. On the south side of the mountain, an 80-foot wide haulroad would allow trucks to haul ore material to a processing plant at DeLamar Mine. This mine has been operating as an open-pit for about 20 years resulting in removal of the top of DeLamar Mountain. Computer modeling done for the Stone Cabin Mine EIS determined that the Florida Mountain operation would be visible from 11,900 acres within the Jordan Creek watershed (VRM Class II) and another 27,000 acres of surrounding VRM Class III and Class IV lands. Though no acreage was specified in the Stone Cabin Mine EIS, the cut-and-fill of the haul road would be visible over large acreages to the southwest, as is the pit at the top of DeLamar Mountain. Impacts on visual quality would vary within the region depending upon the viewer's elevation and slope aspect. When in full view of the mining operation, impacts on visual quality would be considered to be "significant" in both the short term and long term, and would not be mitigated. Cumulative impacts on visual quality in the Snake River and Jordan Creek geographic reference areas from past and existing mining are already considered to be substantial. There is a high probability that mineral development such as that of DeLamar and Florida Mountain would occur in other nearby mountains, further degrading the scenic resources of the Owyhee Mountain Range as a whole.

While much of the Owyhee River geographic reference area is currently considered to have low mineral development potential, there is a low to moderate possibility that exploration activities could come to this region of the resource area and also cause an irreversible and irretrievable loss of visual quality. Of greatest concern are the Owyhee Canyonlands where geological structures associated with fracturing and faulting invite exploration. As with the steep slopes of the Owyhee Mountains, exploration activities which would deface the canyon walls of the Owyhee River system cannot be rehabilitated, partially destroying what is considered by many a national scenic treasure. Only wilderness designation or the wild river designations prescribed in Alternative B would ensure the long-term protection of the East Fork, South Fork and upper North Fork Owyhee River by withdrawal of public lands from mineral entry. For details concerning impacts of mineral exploration and development in the Owyhee Canyonlands, refer to the Owyhee Canyonlands Wilderness EIS.

Along the Owyhee Front, and in the Owyhee Canyonlands area, there is a low potential for the exploration of oil and gas resources. For the purposes of environmental analysis, the Owyhee RMP provides a development scenario relating to these resource uses. In both areas, the oil and gas activities would introduce a series of small facilities to explore and extract discovered reserves. On the plateau surrounding the Owyhee Canyonlands, such developments would seriously contrast with the characteristic elements of the vast, open, relatively flat natural landscape. Viewsheds have the potential to be quite large. It is projected that 5,100 acres of plateau lands would have scenic quality substantially reduced by oil and gas activities in the scenario given in the Owyhee Canyonlands Wilderness EIS. Visual impacts could not be notably reduced by alterations in facility design and coloring. Along the Owyhee Front, rolling, highly convoluted peneplain topography could be used to mitigate the developments. However, because of their vertical character as compared to the somewhat horizontal character of the natural landscape found in the Owyhee Front as a whole, some level of adverse impact on visual quality is projected in very localized viewsheds.

Utility Corridors

The Owyhee Canyonlands Wilderness EIS also provides a development scenario for a high voltage powerline utility corridor through WSAs ID-16-49D and 16-52 lying just west of the Duck Valley Indian Reservation. In the alternatives presented in the wilderness EIS there are 10,330 to 10,760 acres of WSA lands where scenic values could be substantially reduced by powerlines in the absence of wilderness designation. The impact would be caused by the introduction of large, vertical, columnar forms and vertical lines of towers as well as surface disturbances from construction and maintenance roads into a vast, open, relatively flat plateau landscape. It is projected that an additional 25,000 acres of non-WSA lands could also be affected by utility corridor development. This visual impact could be mitigated or prevented by the alternative wild river designation for the East Fork Owyhee River.

Conclusion

Implementation of Alternative B would result in the widespread degradation of scenic quality in the woodland communities of the resource area from vegetation treatment projects. It is projected that about 43% (110,000 acres) of the woodland communities would exhibit slight to severe impacts on scenic resources over the next 20 years. Affected viewsheds in the woodland region could exceed 75% of the land base. However, over the long-term (20-50 years), vegetation treatments would produce a highly scenic landscape diverse in the four basic landscape elements (line, form, color and texture). Widespread visual degradation to a severe degree in also projected to occur from ongoing mineral exploration and development activities in the Owyhee Mountain Range. Range facilities combined with recreational use (mostly OHMV activity) and small scale mineral activities would cause localized slight to severe adverse impacts that would eventually contribute to an overall accumulative decline in the scenic quality of the resource area as a whole. Of particular concern are the number of new OHMV trails which could affect VRM Class II areas to the point where an essentially natural landscape could not be retained. Though causing some alteration of natural landscapes, the development of recreation facilities to manage both motorized and nonmotorized recreation use would have some beneficial localized impacts on scenic quality at isolated, specific sites and areas by mitigating the effects of concentrated recreational use.

In the absence of wilderness or wild river designations in the Owyhee Canyonlands region, utility corridor developments would be likely to cause severe, adverse visual effects on as much as 35,760 acres. Should fluid mineral exploration also come to the plateau surrounding the Owyhee River, an additional 5,100 acres could have substantial adverse visual impacts during the exploration period, or for the long term if reserves are discovered. Locatable mineral exploration in the canyonlands could also degrade highly scenic areas.

Meeting the Objectives

Objective VISL 1: Manage public lands for visual resource values under Visual Resource Management (VRM) classifications.

Alternative B would not fully meet this objective because it would not provide for any VRM Class 1 designations to protect the highly natural and highly scenic areas of the resource area. VRM Class 1 designations are essential to meeting recreation objectives RECT 1, RECT 2, RECT 3 and RECT 5. Alternative B also would cause an increased visual presence of rangeland facilities in some VRM Class II areas to a level that may not be appropriate for the retention of an essentially natural landscape.

CULTURAL RESOURCES

Change Agents

Scientific collection, mining activities, ACEC designation, OHMV activities, vandalism, livestock grazing, wildlife habitat exclosures, streambank stabilization, acquisition and weathering and decay.

Impact Analysis

Planned actions which produce adverse impacts on cultural resource sites are limited by management procedures to scientific collection and excavation, and would only occur in situations where scientific research by an accredited entity (such as a university or other research organization) is permitted. These impacts would be mitigated, however, by the compilation of scientific data which are deemed to be significant by the archaeological profession. Beneficial impacts are produced by management strategies designed to preserve scientific data for future use, or for recreational or educational use. In Alternative B this latter category includes the protection accorded to the Oregon Trail and the existing Guffey Butte/Black Butte, Silver City and DeLamar National Register Districts.

Adverse impacts which occur to cultural resource values as a result of the implementation of projects generated by other resource activities are generally diminished by the performance of project specific cultural resource inventories in advance of project implementation. If it appears (as a result of a cultural resource inventory) that a cultural resource site would be adversely impacted by project implementation, the project be redesigned to avoid the impact. Should this not be possible, adverse impacts would be mitigated by appropriate strategies, including scientific excavation and collection, depending on the significance of the site in question. A significant exception to this would come from projects conducted under the Mining Law of 1872. It is often not possible to respond within a reasonable time frame to potential adverse impacts caused by mining operations.

Impacts on cultural resource sites from minerals related actions could continue in the Lambert Table and Rooster Comb Peak areas since no ACEC designation or special management to protect cultural resources is prescribed for these high cultural resource value areas in Alternative B.

Additional adverse impacts on cultural resource values would occur from natural weathering and decay.

Beneficial impacts on cultural resource sites could occur as a result of projects generated by other resources. Wildlife exclosures could have the effect of isolating a cultural resource site from adverse impacts from livestock grazing, riparian treatment plans could benefit cultural resource sites by providing streambank stabilization, and lands actions taken to block up federal land holdings could facilitate the management of large clusters of significant cultural resource sites.

Cultural resources are fragile and non-renewable, and adverse impacts are generally cumulative through time. Therefore, short-term impacts (such as a single occasion of vandalism) could increase in severity from natural forces (erosion, etc.) so that the long-term (20 year) effect increases in severity. In Alternative B only three sites would be visited per year to determine site condition, so that over the next 20 years, the majority of the 444 sites known to be deteriorating would be destroyed.

Conclusion

Beneficial effects would accrue from actions taken to actively manage cultural sites, such as site monitoring to determine rate of deterioration, and the development of site treatment plans. Other beneficial effects would accrue as a result of the implementation of land treatment programs (riparian, wildlife exclosures, etc.), and land exchanges.

About the same number of cultural resource sites (as in Alternative A) would continue to deteriorate from the effects of change agents, including minerals program actions, and natural forces.

The overall effect over the duration of the plan could be generally adverse.

Meeting the Objectives

Objective CULT 1: Protect known cultural resource values from loss until their significance is determined.

5 years: This objective would not be met.

20 years: This objective would not be met.

Objective CULT 2: Provide special management emphasis for the protection and conservation of significant cultural resource sites and values.

5 years: This objective would be met for Guffey Butte/Black Butte Archaeological District/ ACEC, Silver City and Delamar Historic Districts and Oregon Trail; but not met for Rooster Comb Peak, Lambert Table and Sinker Creek ACEC's.

20 years: This objective would be met for Guffey Butte/Black Butte Archaeological District/ ACEC, Silver City and Delamar Historic Districts and Oregon Trail; but not met for Rooster Comb Peak, Lambert Table and Sinker Creek ACEC's.

Objective CULT 3: Increase the opportunity for educational, recreational, socio-cultural and scientific uses of cultural resources.

5 years: This objective would be met.

20 years: This objective would be met.

HAZARDOUS MATERIALS

Change Agents

Land use authorizations and mining activities.

Impact Analysis

The Bureaus approach to hazardous materials management on public lands in this and all alternatives (1) seeks to prevent the generation and acquisition of hazardous wastes; (2) is intended to reduce the amounts and toxicity of wastes generated; (3) provides for the responsible management of waste materials in order to protect the natural resources as well as the people who live and work on and those who use Bureau-managed lands; and (4) provides for aggressive clean up and restoration of Bureau lands that are contaminated by waste materials.

All proposed activities on public lands would be thoroughly analyzed as to whether materials potentially hazardous to the environment and the public welfare would be affiliated with the activity. A full disclosure of all hazardous materials, their use, storage, transport, and disposal would be required prior to authorization.

The largest hazardous materials site in the resource area is the DeLamar Mine. The cyanide heap leach pond and cyanide pond are on public lands and are permitted by the State of Idaho. Large quantities of chemicals and fuels are transported over Bureau administered roadways as part of this mining operation. Operation of the Stone Cabin Mine would require additional chemicals and fuels.

Conclusion

The overall impact of Alternative B on hazardous materials management would not be substantial.

Meeting the Objectives

Objective HAZM 1: Reduce the occurrence and severity of hazardous material incidences on public lands.

This objective would be met.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Change Agents

Relevant change agents for each area are listed below. The impact analysis for each of these change agents applies to those areas where identified. Impacts on specific areas are addressed where notable. See Table ACEC-4B for a tabular impact analysis summary.

Guffey Butte/Black Butte Archaeological District: recreation use.

Owyhee River Bighorn Sheep Habitat Area: livestock management, recreation use and OHMV activities.

Boulder Creek Outstanding Natural Area: livestock management.

North Fork Juniper Woodland Outstanding Natural Area: water developments, livestock management, fencing, recreation use and OHMV activities.

Cinnabar Mountain: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and OHMV activities.

Coal Mine Basin: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and plant collection.

Hells Creek: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities and mineral materials activities.

Jump Creek: livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, recreation use and OHMV activities.

Juniper Creek Watershed: livestock management, juniper removal, fire management, locatable minerals, recreation use and OHMV activities.

Juniper Mountain: water developments, livestock management, fencing, recreation use and OHMV activities.

Lambert Table: livestock management.

McBride Creek: rights-of-way, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use, OHMV activities and plant collection.

Pleasant Valley Table: livestock management, juniper removal, fire management, fluid minerals activities and recreation use.

Rooster Comb Peak: rights-of-way, fluid minerals activities, and OHMV activities.

Sinker Creek: rights-of-way.

Squaw Creek: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities and OHMV activities.

The Badlands: rights-of-way, water developments, livestock management, fencing, juniper removal, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use, OHMV activities and plant collection.
The Tules: recreation use.

Upper Deep Creek: water developments, livestock management, fencing, juniper removal, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and OHMV activities.

Impact Analysis

The impact of Alternative B rights-of-way developments would be similar to that identified in Alternative A. Granting subsurface rights-of-way would have a short-term and potentially a long-term adverse impacts on botanical, archaeological, scenic, watershed and wildlife resources. Ground disturbance, depending on topography and soils, would cause erosion and disturbed sites could be invaded by exotic plant species. In areas occupied by special status plants, exotic plant invasion could be detrimental to the native populations. Exotic plants would also potentially alter the composition of botanical reference areas. Because of the lack of availability of native plant species for rehabilitation projects and the difficulty of re-establishing vegetative cover on some sites, subsurface rights-of-way would detract from the scenic and biological quality of some areas. Surface rights-of-way that require no ground disturbance would typically not impact botanical and archaeological resources, however scenic qualities could be adversely affected, as could some wildlife species. Impacts from ground disturbing surface rights-of-way would be similar to those for subsurface rights-of-way. Overhead rights-of-way would adversely affect scenic values and potentially raptor populations, but their impact on botanical, archaeological, watershed and other wildlife would be either short-term or absent, depending on the extent and requirement for surface disturbance.

The development of 19 reservoirs, 45 springs, and 22 miles of pipeline with associated troughs recommended in Alternative B would have an overall adverse long-term impact in areas recognized for their high quality or unique botanical resources (either rare plant or excellent condition communities). Adverse impacts would arise directly and indirectly from construction (vegetation destruction, alteration, weed invasion), increased livestock concentrations (trampling, grazing), and shifting of livestock into sensitive areas (impacts on special status plants). Areas with no existing water, steep slopes and low grazing pressure would be particularly adversely affected by such actions. However, pipelines that pass through an area in order to disperse livestock could have a beneficial impact by dispersing livestock and effectively lowering use. Some wildlife species would benefit from construction of reservoirs, however the majority of the areas, with the exception of the Owyhee River Bighorn Sheep Habitat Area where reservoir construction is restricted, were not identified for wildlife resources.

Water developments typically have an adverse impact on scenic qualities by detracting from an area's natural appearance. Spring development and dewatering would adversely impact riparian vegetation, scenic qualities and wildlife, particularly amphibians and fish populations, by reducing water availability at the source and altering the habitat. While the existing policy of fencing water sources and overflows to protect the habitat would have a beneficial impact on the vegetation, watershed and wildlife, it may adversely impact scenic values. Alternative B would have a slightly greater overall adverse impact than Alternative A due to the 19 additional miles of pipeline and associated troughs.

In Alternative B, the lack of restrictions on salt placement and grazing use would generally have a long-term adverse impact on the areas. Currently salt may be placed anywhere except by water, putting colonies of special status plants, representative plant communities, cultural sites, some wildlife species, and scenic viewsheds at risk in the immediate vicinity of the blocks. Changes in livestock grazing regimes that effectively increase use and subsequent trampling would potentially lower the biological diversity of the areas, as well as adversely impact some cultural resources and wildlife, special status species, and scenic qualities. Indirect increases in grazing use occur when range fires displace livestock into areas that normally receive low levels of use. Some of the areas have had little historic grazing use, often due to their steep terrain. Within or adjacent to such areas, the addition of range improvement projects such as pipelines, reservoirs, and fencing would increase grazing use and trampling impacts, by effectively extending the season-of-use. The overall impact of Alternative B would be similar to that of Alternative A.

Pasture fencing projects vary in their impact on an area, depending entirely on their placement and subsequent changes in use by livestock and wildlife. Pasture fences could effectively increase livestock use in some areas, resulting in long-term adverse impacts on the vegetation, scenic quality, and cultural resources due to the higher concentrations of animals and potential increase in bare ground. However, the opposite could also be true. Installation of a pasture fence may eliminate or decrease livestock use of a particular area, resulting in a long-term beneficial impact due to improved livestock management. The 101 miles of pasture fence identified in Alternative B would primarily be built to exclude livestock from riparian areas. Riparian pasture fences would have a long-term benefit on the riparian portions of areas such as the Owyhee River Bighorn Sheep Area, Boulder Creek, Hells Creek, Jump Creek, Juniper Creek Watershed, Juniper Mountain, Lambert Table, North Fork Juniper Woodland, and Upper Deep Creek. It is projected that the upland vegetation in portions of these same areas would suffer some adverse impacts due to increased use and trampling along fencelines. For Alternative B, the overall long-term impact of pasture fence construction would be both beneficial and adverse.

Thirty miles of exclosure fence are identified for development in Alternative B, as compared to Alternative A and C, which have 137 and 24 miles of fence identified, respectively. In general, exclosure construction has a direct, short-term adverse impact on the vegetation of an area as disturbance occurs, but it is typically minimal (no scraping of ground is permitted). Scenic qualities are potentially lowered by poor placement of an exclosure. However, because of the long-term benefits derived by plant communities and wildlife within exclosures, the overall impact of Alternative B would be less beneficial than Alternative A, in which 107 additional miles of exclosure fence would be constructed.

In Alternative B, 92,320 acres of western juniper are prescribed for burning and 18,090 acres are identified for cutting. This is 36,620 acres and 1,090 acres more, respectively, than identified in Alternative A. Western juniper is a plant community component in eleven of the nineteen areas (Owyhee River Bighorn Sheep Habitat Area, Boulder Creek, Hells Creek, Juniper Creek Watershed, Juniper Mountain, Lambert Table, North Fork Juniper Woodland, Pleasant Valley Table, Rooster Comb Peak, The Badlands, Upper Deep Creek). Of the eleven areas, juniper removal is prohibited in all or portions of seven of them (Owyhee River Bighorn Sheep Habitat Area, Boulder Creek, Hells Creek, Juniper Mountain, Lambert Table, North Fork Juniper Woodland, Pleasant Valley Table). Juniper removal has been identified as a Change Agent for four of the eleven areas - Juniper Creek Watershed, Pleasant Valley Table, The Badlands, Upper Deep Creek. Implementation of Alternative B would essentially have no impact on the other seven areas.

Removal of juniper in Pleasant Valley Table and The Badlands would have a long-term adverse impact on the quality of these areas as RNAs and rangeland reference areas and potentially on Simpson's hedgehog cactus, a BLM sensitive plant species. While the direct impacts of fire on special status plants would probably be short-term, indirect impacts caused by vegetation removal and subsequent erosion could be detrimental. It is doubtful that juniper removal by fire would be successful due to the sparseness of the understory for carrying fire, the abundance of rock, and the discontinuous juniper habitat. Because of equipment and vehicle needs, juniper removal by cutting would have a greater adverse impact on special status plant species than burning. The high scenic value of The Badlands and that of Juniper Creek Watershed and Upper Deep Creek would be adversely impacted by the greater acreages of juniper identified for removal in Alternative B.

In Alternative B, all fire-related management actions, including suppression, vehicle use and rehabilitation, would be open and allowable. Both short-term and long-term adverse impacts would result in the event of fire management. Because of fire's role in the development of most plant communities, the interruption of this process through suppression efforts would alter the successional course. The research and educational value of RNAs would be diminished by active suppression management. Suppression would preclude the opportunity to monitor and research natural recovery of relatively undisturbed plant communities. Because many of the areas are in relatively high ecological condition, fires would not burn as intensively as in areas dominated by exotic annuals. Thus, recovery would be faster and plant communities would continue to be dominated by natives.

In forested areas, under suppression management, unhealthy trees would continue living, only to serve as a disease source for unaffected individuals, potentially leading to higher mortality and catastrophic fire. In certain areas, interruption of the natural fire process could increase juniper density to an undesirable level. The use of soil-disturbing emergency fire vehicles outside of existing roadbeds would create short-term and possibly long-term erosion problems, depending on the level of the disturbance. Vehicle disturbance would have a long-term adverse impact on natural plant community processes and potentially on special status plant species.

The absence of constraints on rehabilitation could have both a beneficial and adverse impact. Beneficial impacts would result if, for example, the area burned intensively with high loss of vegetation and native species were successfully seeded to reduce erosion, essentially helping maintain the soil resource. However, should exotic species be used, native plant recovery, including that of special status species, would probably be impeded by competitive interaction with the exotics. The composition of the plant community could be permanently altered and set on a different course of recovery than if it were allowed to recover on its own. The overall impact of Alternative B on the areas would be similar to that projected in Alternative A.

In Alternative B, the impact of fluid mineral development would the same as in Alternative A. Although fluid mineral development is unlikely in most of the resource area because of its geology, exploration activities could occur. Exploration would have either a short-term or long-term adverse impact on scenic, wildlife, botanical, watershed, and archaeological resources. Short-term impacts would arise from the exploratory phase due to increased OHMV use and subsequent road development. Wildlife disturbance, vegetation degradation, erosion caused by ground disturbance and long-term impacts in the form of site degradation would result from most fluid mineral development projects.

In addition to the surface stipulations designed to mitigate impacts, portions or all of Guffey Butte/Black Butte, Owyhee River Bighorn Sheep Area, Juniper Creek Watershed, Juniper Mountain, Lambert Table, Sinker Creek, and The Tules are either closed or prohibit surface occupancy for fluid mineral activities.

The impact of the mineral material activities projected in Alternative B would be similar to those projected in Alternative A. Mineral material disposal would have either a short-term or long-term adverse impact on scenic, wildlife, botanical, and watershed resources in all currently undesignated areas, depending on the intensity of disturbance. Areas with high cultural values would not be adversely impacted since cultural clearances would be conducted prior to approval of any discretionary action. Areas with existing special designations would incur no adverse impacts since these areas are already closed to mineral material disposal. Adverse impacts that would occur would be similar to those for fluid mineral exploration and development. Impacts would arise from increased OHMV use, road development, vegetation degradation, and erosion caused by ground disturbance. The remoteness and difficult access of some areas would probably preclude mineral materials disposal.

In Alternative B, 122,962 fewer acres (95,687 total) would be withdrawn from mineral entry than prescribed in Alternative A (218,649 acres). Except for those areas withdrawn, including portions or all of Guffey Butte/Black Butte, Owyhee River Bighorn Sheep Area, Juniper Mountain, Lambert Table, Sinker Creek, and The Tules, other areas would potentially be adversely impacted by locatable mineral activities. Exploration and development would have a short-term and long-term adverse impact on plant communities, on scenic values, on wildlife, on special status plant and animal species and on watersheds, depending on the intensity of the activity. Compared to exploration, development would generally have a longer term impact on most of these resources. While mining claims are present within some areas (i.e. Cinnabar Mountain, Coal Mine Basin, McBride Creek, Squaw Creek), locatable mineral potential is generally rated as moderate in most of them due to their geology. However, three of the areas with existing claims have experienced historic or recent mining disturbance, and their plant communities and special status plant species (smooth stickleaf, Cusick's false yarrow, barren milkvetch, Malheur yellow phacelia) would be vulnerable to long-term impacts (roads, mineral extraction, heavy equipment) especially where disturbances less than five acres in size would not require a plan of operation. The overall long-term impact projected for locatable minerals activities by Alternative B as compared to the other alternatives would be adverse.

Alternative B proposes that a Recreation Management Action Plan be developed to assess the validity of all existing SRMAs and the need for the establishment of new SRMAs. Since Alternative B makes no specific proposals for either deletion or addition of SRMA designation, no specific impact assessment can be done. However, it is projected that Alternative B would have both a beneficial and adverse impact on the areas. If and when existing SRMAs are released from SRMA designation, they would be subject to other forms of impacting actions which would potentially cause greater disturbance than non-motorized recreational activities. In contrast, by not developing an SRMA, public use of a given area would potentially increase much more slowly, minimizing the habitat deterioration associated with development.

Alternative B proposes no specific rivers or river segments for inclusion in the National Wild and Scenic River System. However, the 66 miles of the East and South Fork Owyhee Rivers already designated by congress would be maintained in Alternative B. Alternative B does propose to maintain continued multiple recreation uses and establish designated equestrian, foot and OHMV trail systems within river segments should they be designated. Overall long-term impacts are projected to be adverse.

In Alternative B, a "Limited" OHMV designation would apply to all of the areas. However, because the definition of "Limited" in Alternative B is much less restrictive than that defined by Alternatives A, C, and D, adverse impacts are projected to be greater than in all other alternatives. The use of historic trails and sand washes areawide, along with the elimination of all seasonal use restrictions, would add substantially to the level of habitat and wildlife disturbance. The types of impacts identified in Alternative A also apply to Alternative B.

In all but three of the areas (Coal Mine Basin, McBride Creek, The Badlands), casual plant collection for scientific or educational purposes would have no short-term or long-term impact on biological, scenic, cultural, or watershed resources. Except for special status species (particularly cactus), collection of plants is typically infrequent enough that plant populations are not impacted. The three areas where BLM sensitive plant species occur would potentially be adversely impacted by leaving them open to collection. Ultimately, some populations could be extirpated. The overall long-term impact of Alternative B is projected to be the same as in Alternative A.

Conclusion

The overall impact of Alternative B on the areas is projected to be adverse. Emphasis on activity planning, monitoring, annual evaluation and review, and coordination with local and State government planning agencies to justify ACEC designation and management, would make on-the-ground protective management extremely difficult. Aside from this, major contributing change agents include increases in livestock AUMs, expanding OHMV activity with fewer access restrictions, habitat loss and disturbance from mining activities, reduced emphasis on special designations including ACECs and Wild and Scenic Rivers, vegetation manipulations including juniper removal, and rights-of-ways.

Meeting The Objectives

Objective ACEC 1: Designate Areas of Critical Environmental Concern (ACECs) where relevance and importance criteria are met and apply special management to protect the values identified.

This objective would not be met, as 15 areas determined to meet the relevance and importance criteria for establishment as ACECs would receive no special management to protect their identified resources. In Alternative B, only those four areas with existing designations would receive special management protection. Even these areas would be vulnerable, given the increases in some types of uses and developments, and the proposal to annually review each existing special designation.

SOCIAL AND ECONOMIC CONDITIONS

Change Agents

Population and recreation growth, livestock grazing levels and federal expenditures.

Impact Analysis

Greater Idaho's population is projected to increase throughout the next 20 years. Population growth has been a dynamic force in the current economic growth in southwestern Idaho. Between 1990 and 1993, regional population has grown by 37,700 or 11.3% within the four-county region of Ada, Canyon and Owyhee Counties in Idaho and Malheur County in Oregon (Bureau of Economic Analysis, Regional Economic Information System). However, population growth has taken on new dimensions, including quality of life considerations, here in this latter part of the 20th century. Recent migration has been toward smaller urban or rural areas and away from the large overcrowded metropolitan areas. Quality of life factors such as lower taxes, less inflation, lower crime rates, economic boom and leisure and recreational opportunities are sighted as reasons for this migration trend. This has resulted in increased pressure on the public land to provide a socially acceptable mix of land uses; away from consumptive use toward more nonconsumptive or preservation and retention in the public domain. The Owyhee Resource Area would continue to see increased pressure as regional population growth from nearby Ada, Canyon and Malheur Counties drives demand for alternative, and often conflicting, uses of these public land resources.

The following impact analysis is based on computer modeling of the regional economy for Owyhee, Ada and Canyon Counties in Idaho and Malheur County in Oregon using Micro IMPLAN

(IMpact analysis for PLANning) which performs regional input-output analysis. (See Appendix SOCE-1 for a short summary of the modeling technique used in this impact analysis.)

Increases in the number of Animal Unit Months (AUMs) permitted for livestock grazing (115,144 AUMs to 150,884 AUMs, or 35,740 AUMs) would increase the number of cow/calf pairs by 2,743 within Owyhee Resource Area. This would be a 6.1% increase over current cow/calf pairs (based on 1992 Census of Agriculture statistics for Owyhee County). Livestock revenues would increase by $1,393,444 (based on $508 per cow/calf pair). This would be a positive impact to the local/regional economy by creating more output. This normally translates into more goods and services locally generated along with more employment. According to the model results, employment would increase by some 45 full time equivalents (FTE) within Owyhee County and by 64 FTE if Canyon, Ada and Malheur Counties are included. Because Owyhee County has such a small labor force it is likely the majority of the workforce would come from nearby counties requiring some workers to permanently relocate. Personal income (made up of employee compensation and proprietors income) would increase by $1,422,300 within Owyhee County and by $1,691,600 if Canyon, Ada and Malheur Counties are included. However, income multipliers for Owyhee County are not large, therefore, dollars earned within Owyhee County would not be projected to remain very long prior to escaping or leaking out of the area through purchases from the intra-region or inter-region.

In addition to an increase in final demand for range fed cattle (the increase for products from the range fed cattle sector—i.e. the additional livestock that can be fed and sold due to an increase in available forage on the public lands; the ultimate consumers of commodities - both goods and services), there would be an increase in federal funds expenditures to construct range improvement and recreation projects within the Owyhee Resource Area (See Table SOCE-7 for cost breakdown). For purposes of analysis, this would be evenly distributed throughout the next 20 years. An increase in final demand for labor and materials for the construction and implementation of these projects would result in an employment increase of approximately 11 FTE and $338,600 in income for Owyhee County and 31 FTE and $1,034,100 in income if Canyon, Ada and Malheur Counties are included. Again, the additional workforce likely coming from counties surrounding Owyhee County.

Recreation activity is projected to increase approximately 70% between 1995 and 2015. However, it is not suggested that the increased recreation activity would be in response to BLM actions, rather, the regional population growth would be the root cause of any additional recreational activity on the public lands in the planning area.

Total regional economic impact to Owyhee County from changes in livestock grazing activity, federal employment, and wholesale purchases of project materials is estimated to increase final demand (the ultimate consumers of commodities - both goods and services) by $2,136,900 and increase employment by approximately 57 FTE and personal income generation by $1,760,900. When Canyon, Ada and Malheur Counties are included these figures become $3,552,500 in final demand, 95 FTE in employment and $2,725,700 in personal income generation. Taken as a whole, this is considered to be more significant for Owyhee County (however, it is less than 1% of total output) than for the four-county region.

Population growth attributable to the increase in output of goods and services on the public lands is projected to be small. The intra-regional population is projected to increase by approximately 157 in response to the increase in final demand for goods and services. With more than 370,000 currently within the four-county region, the additional 157 would not be a significant increase.

The percent changes for Owyhee County and the four-county economic region are summarized below. See Table SOCE-B for the total regional effects. See Figures SOCE-1 and SOCE-2 for a graphic comparison of the alternatives.

	Final Demand	Total PW Income	Employment
Owyhee County	+0.75%	+0.96%	+0.96%
Four-County Region	+0.02%	+0.02%	+0.02%

Conclusion

Positive impacts are projected for the local/regional economy because of increases to regional output of goods and services, and employment. The impact is not projected to be significant enough to cause financial hardships for the local or regional infrastructure to handle increased demand. Social services and other factors that currently contribute to the quality of life locally and regionally would not be significantly affected by the small increase in population.

AIR RESOURCES

Change Agents

Prescribed burning, mining activities, national river designations, road construction, plow and seed operations and aerial pesticide/herbicide application.

Impact Analysis

A total of 64,400 acres are identified for possible prescribed burning over the next 20 years. Up to 9,000 acres per year would be treated. Individual burns would be limited to 3,000 acres. During these operations a one to two day localized decrease in air quality would occur. By limiting the size of the burn, allowing a time interval of 72 hours between burns, conducting burns when climatic factors are optimal for good dispersion, and coordinating with other air quality influencing actions in the area at the time of the burns (to reduce potential cumulative impacts), impacts from this action would not be substantial.

Mining operations have several sources of air pollutants. Sources of particulate (i.e., dust) emissions in mining operations include drilling, blasting, and ore collection in the mine pit, plus wind erosion from ore pits, ore loading into trucks, trucks moving over haul roads, and trucks dumping ore into piles, ore loading onto conveyors and ore crushing into small processing sizes, crushed ore screening and crushed ore smoothing, waste rock smoothing in waste piles and wind erosion from waste piles.

The active DeLamar Mine is currently the major source of these types of emissions in the resource area. Air quality impacts due to the Stone Cabin Mine are addressed in the Stone Cabin Mine EIS and will not be addressed in this document. Cumulative impacts of the DeLamar and Stone Cabin mining operations would have an adverse impact on local air quality in the area. Impacts projected from small scale mining operations would not be substantial due to the limited size and nature of these operations, although if in the same vicinity of the DeLamar and Stone Cabin sites they would add to the cumulative impact.

Designation of 163 miles of national rivers would result in eventual withdrawal of these reaches from mineral entry. This would preclude any impacts on air quality associated with mining or mineral exploration.

Impacts from road construction, plow and seed operations, and aerial application of pesticides/herbicides would result in minor short-term impacts on air quality dependent on size of the operations and adherence to best management practices during the operations.

Conclusion

The overall impact of Alternative C on air quality would not be substantial.

Meeting the Objectives

Objective AIRQ 1: Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration regulations with all authorized actions.

If proper procedures are followed and BMPs implemented the objective would be met in Alternative C.

SOIL RESOURCES

Change Agents

Livestock grazing, livestock water developments, off-highway motorized vehicle (OHMV) activities, fluid mineral and locatable mineral activities, rights-of-way, national river designations and vegetation treatments.

Impact Analysis

In Alternative C, it is estimated that broad based erosion rates would decrease slightly. These broad based decreases in soil erosion would be primarily due to the increase in vegetative density and composition projected over the next 20 years. See "Affected Environment" - Soil section for effects of vegetative composition and density on soil erosion.

Projected livestock stocking levels and grazing management practices over a 20-year period would result in improved streambank stability and a decrease in the following impacts: soil compaction, soil disturbance, cryptogamic crust disturbance, and vegetative degradation. Increased biodiversity and soil productivity would occur.

Development of 46 livestock water projects could result in degradation of the soil resource at and in the general vicinity of theses sites. This degradation would be in the form of soil compaction, mechanical disturbance of the soil surface by hoof action, and loss of vegetative protective cover. The probability of this occurring is high. By selecting sites that are not in compaction prone soils some of these impacts would be mitigated.

Impacts on the soil resource in the form of soil erosion, loss of productivity, and soil compaction from off-highway vehicle (OHMV) activities would decrease in Alternative C. This would be due to changing the 420,493 acres of "Open" designation to Limited - Level 4 and Level 5 and some Level 6 designations which would eliminate all cross-country OHMV activity within the area. This would be especially beneficial in the Owyhee Mountains, South Mountain and Juniper Mountain area where OHMV activity is rapidly increasing. Changing about 52,000 acres of the Owyhee Front SRMA from a Limited - Level 1 to a Limited - Level 5 and Level 6 designation would also occur. Impacts (as projected for Alternative A) would continue and probably increase within the Owyhee Front SRMA as use levels increase. OHMV use would cause mechanical disturbance to the soil surface and destruction of the protective vegetative cover (this includes vascular plants and soil stabilizing cryptogamic crusts). Mechanical disturbance from OHMV activities would result in destruction of soil aggregates, formation of channels, and a sloughing of washes. More heavily utilized trails would widen and become more deeply moguled and rutted as use levels increase. With the projected increase in casual and competitive OHMV activities mitigating measures would be needed to protect the soil resource (especially on the highly erosive soils). There would be better management (maintenance) of existing trails. Existing trails would be maintained on a yearly basis (i.e., water bars, contouring, reshaping) to prevent major precipitation events from causing irreparable damage. Monitoring of accelerated soil erosion (gullies and rills) would be done at specific locations to study impacts of recreational activities and aid in trail segment management decisions.

Fluid mineral and locatable mineral activities would impact the soil resource the same as projected for Alternative A. Mineral exploration, development and production could cause substantial soil erosion (and subsequent sediment delivery and productivity losses) depending on the size and scope of the project. Access road construction, drill pad installation, mineral extraction actions, and other surface disturbing activities would be the primary causes. Impacts on the soil resource from these actions would be localized to the specific area of disturbance. The extent of these impacts would be determined by the amount of activity, advances in mining and mitigation techniques, type of operation, location, and other factors. Overall, impacts on soils attributed to mineral activities over the next 20 years is projected to increase. The Stone Cabin Mine project would cause both short and long-term localized erosion problems (see Stone Cabin Mine EIS.

Right-of-ways would cause varying degrees of disturbance in the resource area. No significant impact on soils is projected from construction of pipelines, powerlines and telephone lines after construction is finished. Roads, especially unsurfaced roads, would cause both short and long-term erosion problems.

Designation of 163 miles of national rivers would result in withdrawal of about 52,160 acres of associated lands from mineral entry and avoidance of potential impacts associated with these activities as projected above in the minerals activities analysis. It would also result in strict limitations on vehicle travel and associated impacts as projected in the above OHMV activities analysis. This would result in a beneficial impact on the soil resource.

Vegetation treatments on an estimated 91,960 acres (prescribed burning, 64,400 acres; burn and seed, 10,560 acres; and woodland harvest, 17,000 acres) according to established standards and the Owyhee Juniper Woodland Management Plan is prescribed in Alternative A. Prescribed fire would be the major treatment method most often used. Other treatment methods would include chemical and mechanical. The projected acreage for chemical and mechanical treatments is about 6,400 acres (about 5,800 acres less than for Alternative A) over the next 20 years. Sagebrush treatment acreage would decrease from about 65,900 acres to 34,100 acres with the number of seeded acres decreasing from 13,400 acres to zero. Vegetation treatments would cause varying degrees of disturbance in the resource area. This would depend on the type and size of the treatment (and, over the long term, the success). By following established BMPs, impacts from these treatments would be reduced. Soil erosion and subsequent sediment delivery and loss of productivity would be a short-term impact. After revegetation occurs a long-term reduction in erosion rates could occur.

Conclusion

The overall impact of Alternative C on the soil resource would be beneficial. Broad based erosion levels would decrease. Streambanks would recover in many areas where grazing systems and protection are implemented.

Meeting the Objectives

Objective SOIL 1: Improve unsatisfactory and maintain satisfactory watershed condition on lands above 3,500 feet elevation.

It is estimated that this objective would be met on over 80% of the resource area in Alternative C.

Objective SOIL 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

It is estimated that this objective would be met on 30% to 40% of the resource area in Alternative C.

Objective SOIL 3: Achieve stabilization of specific localized soil erosion problems (particularly streambanks and roads). Reduce the potential for accelerated (human induced) erosion problems by utilizing Best Management Practices (BMPs).

It is estimated that this objective would be met for 40% to 60% of the cases in the resource area. Human induced erosion problems would be reduced only with the establishment of, and compliance with, BMPs in Alternative C.

WATER RESOURCES

Change Agents

Livestock grazing, mining activities, OHMV activities and prescribed burning.

Impact Analysis

Implementation of the July 15 end-of-grazing-season constraint in pastures containing riparian areas in unsatisfactory condition, a 47,028 (35%) AUM reduction in grazing over 20 years, implementation of intensive grazing systems and conversion to winter grazing within the Snake River Plains would result in long-term improvement in riparian condition. Over 20 years, as riparian condition improves, 90% of all stream miles throughout the resource area would achieve satisfactory or proper functioning condition. Water quality would improve to fully support designated uses on these streams in Alternative C.

Nonpoint source mining impacts on water quality would be similar to Alternative A. Impacts would not change from the current level.

Point source mining impacts on water quality would be same as described in Alternative A. Impacts from historic mining activities would not change from the current level.

Adverse OHMV impacts on water quality would decrease in Alternative C. The type of impact would be the same as described for Alternative A. The number of acres with few limitations on OHMV use would decrease by about 45% over Alternative A. About 19% of the resource area would be closed to OHMV use. Adverse impacts would occur primarily along the Owyhee Front.

Adverse water quality impacts from prescribed burns would be of the same type as those described in Alternative A. Prescribed burns would be limited to a maximum of 9,000 acres annually with about 64,400 acres burned over the next 20 years. This would be a 47% decrease from Alternative A.

Water rights would be obtained on all water development projects and protest filed on all water right applications by private individuals which would conflict with Bureau water rights or the Bureau's mission. Minimum instream flow applications would be filed on high value streams.

Conclusion

Water quality would improve as a significant reduction in hot season grazing occurs. Designated beneficial uses would be fully supported on 90% of all stream miles over a 20-year period.

Meeting the Objectives

Objective: WATR 1: Meet or exceed State of Idaho water quality standards on all Federally administered waters within the Owyhee Resource Area.

This objective would be partially met in Alternative C. Area wide, the most common pollutant is warm water temperature. Elimination of hot season livestock grazing would allow riparian vegetation structure to change. These changes would result in more stream shading and cooler water temperatures. An estimated 90% of all stream miles would improve over 20 years.

Objective: WATR 2: Follow current State water rights processes and procedures to acquire water rights for beneficial uses and support establishment of instream flows which are in the public interest. File for water use rights on all unclaimed waters within one year and newly developed water projects prior to construction.

In Alternative C, water uses on all streams would be provided for through compliance with State water law and in accordance with State licensing processes.

VEGETATION

Change Agents

Vegetation treatments, OHMV activities, mining activities, livestock water developments, fencing, adjustments in livestock grazing and wild horse management.

Impact Analysis

When any species or class of vegetation is allowed to dominate a large area, ecological diversity, forage production, and plant vigor will be adversely impacted. At the same time if one species or class of vegetation is eliminated or substantially reduced over a large area similar impacts could be projected. Prescribed burning and juniper woodcuts are tools for treating vegetation to maintain the proper mix of habitat components or to meet specific management objectives or desired plant communities within a given area. In Alternative C, 34,100 acres of sagebrush/grass communities and 47,300 acres of juniper are identified for treatment.

Short-term impacts (2-3 years) from prescribed burns (64,400 acres) and juniper woodcuts (17,000 acres) would be adverse as vegetative structural diversity is decreased by reducing or eliminating the predominant species (sagebrush or juniper) at each site. Long-term effects would be beneficial by improving ecological diversity, ecological site condition, forage production, and plant vigor of these selected areas as understory vegetation communities become restored in treated areas.

Beneficial impacts are projected for forest land biodiversity by retaining 32,600 acres of remnant Douglas-fir forests within the resource area.

The Federal Noxious Weed Act (PL 93-629) defines a noxious weed as a weed that causes disease or has other adverse effects on man or his environment and therefore, is detrimental to the agriculture and commerce of the United States and to the public health. Noxious weed control would have a slight beneficial effect on vegetative diversity by maintaining the integrity of native plant communities by reducing or eliminating undesirable species. Beneficial impacts, through noxious weed control, are also projected in those areas where OHV use occurs. OHV activity has the potential to remove vegetation which then allows noxious weeds to become established at those sites.

About 120 miles of trails and sand washes would not be available for OHMV activity, allowing vegetation to reestablish within these "Limited" use areas. Alternative C would also change 420,493 acres of "Open" designation to Limited - Level 4 and Level 5 and some Level 6 designations which would eliminate all cross-country OHMV activity. This would benefit vegetation through reduced physical damage to the vegetation.

Alternative C would result in some benefits to vegetation as projected but adverse impacts from unauthorized OHV use on 101,612 acres within the Owyhee Front SRMA (Limited - Level 1) would continue to increase through damage to foliage, root systems, and seedlings and uprooting of small plant cover and disruption of root systems of larger plants by sheer stress induced in the soil (Wilshire, Shipley & Nakata 1978). This disturbance would then cause loss of native vegetation, increased soil erosion, and invasion by noxious weeds. The level of use and associated impacts could increase at a more rapid rate in this area as restrictions on OHMV use are implemented in the remainder of the resource area. Overall impacts of OHMV activities in Alternative C are projected to be beneficial, but only if OHMV use in the "Closed" and "Limited" areas is controlled through enforcement.

Mineral activities have the potential for adverse impacts on vegetation on a site-specific basis. Impacts would be in the form of short-term and long-term habitat loss at exploration and mining locations. Refer to the Stone Cabin Mine EIS for a detailed analysis of mining impacts.

Development of 46 livestock water projects would have site specific adverse impacts (short-term and long-term) to vegetation through increased grazing pressure and livestock concentration near available water. Developing springs and pipelines could also result in reduced water availability at spring sources or streams resulting in degraded riparian/wetland habitat. These adverse impacts could be partially offset by reduced grazing on vegetation in other portions of the allotment.

Construction of 24 miles of riparian/wetland exclosure fences would have beneficial impacts within these areas. By excluding livestock, these exclosure fences would allow for improvement within these riparian/wetland areas.

Construction of 52 miles of pasture division fences would have a beneficial impact on vegetation by allowing grazing systems to be implemented that could provide rest or deferment within an allotment. Additional pastures should then provide improved livestock distribution and utilization levels within these areas.

Adverse impacts are projected from these fences due to livestock trails that normally become established along fence lines and the potential for construction and maintenance roads along these fences. These roads then have the potential to become areas for OHMV activity. Overall, impacts from these fences are projected to be beneficial.

Adjustments in livestock grazing season-of-use would have beneficial impacts on vegetation. Changing the season-of-use on the Snake River Plain from early spring use to fall/winter use would allow the vegetation to maximize production, gain vigor, and establish seedlings. Forage removal is less injurious at this time as compared to the active growth and food storage phases of spring.

By removing wild horses from the Sands Basin and Shares Basin allotments (with the exception of the Squaw Creek Canyon), livestock would have no competition for forage from wild horses in these two allotments. Beneficial impacts on vegetation are projected as plants in these areas would no longer be grazed year-long. Current grazing systems could then provide complete rest or deferment in these areas, benefiting vegetation.

Suspending livestock use by July 15 in those pastures where riparian areas are in unsatisfactory condition would have beneficial and adverse impacts on vegetation. Early suspension of livestock use would provide for regrowth of riparian vegetation which would allow for improvement in these areas. A shortened grazing system, with no increase in livestock numbers, would also benefit upland vegetation by providing more rest and options for other grazing systems than with the current situation.

Grazing prior to July 15 has the potential to adversely impact native upland vegetation, especially in those areas in an early seral stage or located below 3,500 feet elevation as livestock use would occur during the plant's active growth and food storage phase. Although most plants are sensitive to grazing during this time period, studies have shown that bluebunch wheatgrass is extremely sensitive to grazing during active growth (Anderson, 1991). This early use has the potential to prevent substantial improvement on those range sites where bluebunch is the predominant grass species. These sites cover over 50% of the resource area. However, grazing systems are designed to mitigate these impacts through seasonal deferment or scheduled resting of pastures.

Exclusion of livestock from about 6,280 acres of public land located within the Wild Horse Herd

Management Areas (HMAs) would have beneficial and adverse impacts on vegetation. Wild horses, with primary use of the Rat's Nest and a portion of the Shares Basin allotment (Squaw Creek Canyon), would have no competition for forage from livestock. Improved animal distribution is projected as horses would not congregate but would cover the entire area they are confined to.

Adverse impacts on vegetation could be projected with horse use as plants would be grazed year-long with no provision for rest or deferment. However, by gathering wild horses when resource monitoring indicates that a thriving ecological balance is not being maintained, this impact could be mitigated.

Conclusion

Overall it is projected that vegetation would be beneficially impacted in Alternative C with the potential vegetative manipulations, adjustments in season-of-use in the Snake River Area, removal of wild horses from two allotments, suspending livestock use by July 15 each year in those pastures where riparian areas are in unsatisfactory condition, and adjusting grazing preference within the resource area from the initial stocking level of 136,285 AUMs to 89,257 AUMs at the end of twenty years.

Although beneficial impacts are projected on upland vegetation in terms of improved plant vigor, increased frequency and cover of key perennial species, and upward vegetative trend, changes in ecological condition, especially on those sites currently in an early seral stage, are not projected to substantially change within 20 years. Factors such as climate, soils, competition from other species, available sources of seed on site, livestock season-of-use, and livestock stocking levels would determine the amount of time needed to move from one condition class to the next. Even with complete livestock removal succession can be extremely slow, sometimes requiring 20-40 years (Sanders and Voth 1983 and Tisdale, Hironaka, and Fosberg 1969).

Meeting the Objectives

Objective VEGE 1: Achieve an ecological site condition (ESC) on upland habitats on Federal lands within the Jordan Creek and Owyhee River geographic reference areas and those portions of the Snake River geographic reference area above 3,500 feet elevation of at least 40% in late seral and no more than 10% in early seral stage. (Altered ecological sites such as seedings and annual range excepted.)

This objective would not be met in Alternative C. The table below outlines the projected changes in ecological status for this alternative. These projected changes were based on the prescribed burns and woodcuts along with the reduced stocking levels and adjustments in season-of-use proposed under this alternative.

Areas above 3,500 feet elevation

Seral Stage	Baseline	Percent	20-Year Projection	Percent
Early seral	419,771	38%	390,282	35%
Mid Seral	528,729	47%	476,365	43%
Late seral	143,584	13%	225,437	20%
PNC	2,224	<1%	2,224	<1%
Seeding	18,401	2%	18,401	2%
Total	1,112,709	100%	1,112,709	100%

See Table VEGE-2 for baseline data by allotment.

Objective VEGE 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

By converting a majority of the Snake River area to a fall/winter grazing season an upward vegetative trend is projected. However, this objective would not be met as changes in seral stages are not projected within the twenty-year time period. The table below outlines the projected changes in ecological status for Alternative C.

Area below 3,500 feet elevation

Seral Stage	Baseline	Percent	20-Year Projection	Percent
Early seral	155,215	77%	155,215	77%
Mid seral	36,664	18%	36,664	18%
Late seral	0	0%	0	0%
PNC	0	0%	0	0%
Seeding	9,387	5%	9,387	5%
Total	201,266	100%	201,266	100%

Objective FORS 1: Manage Douglas-fir communities (about 36,200 acres) to emphasize forest health, vegetative diversity, wildlife and watershed values.

Alternative C would meet the objective of retaining forestland biodiversity and recognizes the value of dead material for the overall ecological health of forest environments.

Objective FORS 2: Use juniper harvesting to help achieve a desired plant community.

Alternative C would not meet the objective of achieving desired plant communities in the resource area by controlling juniper as only 17,000 acres have been identified for woodland harvest within 20 years. This is about 7% of the total acres of juniper located on Federal lands. In order to meet this objective a more aggressive program is needed to reduce both existing and projected increased juniper woodland acreage. There would not be enough public demand for juniper fuelwood in the foreseeable future to increase the current rate of commercial harvest operations.

RIPARIAN-WETLAND AREAS

Change Agents

Livestock grazing, mining activities, OHMV activities, livestock water developments and land tenure adjustments.

Impact Analysis

Implementation of the July 15 end-of-grazing-season constraint grazing, a 47,028 (35%) AUM reduction in grazing over a 20-year period, implementation of intensive grazing systems and conversion to winter grazing within the Snake River Plains would result in long-term improvement in riparian condition. Over 20 years, 90% (587 miles) of all riparian miles throughout the resource area would achieve satisfactory or proper functioning condition in Alternative C.

Adverse mining impacts on riparian areas would be the same as described in Alternative A. Nonpoint source impacts from historic mining operations would continue at the current level.

Adverse OHMV impacts on riparian areas would decrease in Alternative C. The type of impact would be the same as described for Alternative A. The number of acres with few limitations on OHMV use would decrease by about 42% over Alternative A. About 19% of the resource area would be closed to OHMV use. Impacts would occur primarily along the Owyhee Front.

Development of stockwater facilities would have the same type of adverse impact on riparian areas as described in Alternative A. The change from Alternative A in the number of stockwater developments include an 32 (71%) spring decrease, an 8 (42%) reservoir decrease, and an 19 (633%) mile increase in pipelines.

Land tenure adjustments to consolidate public lands would generally benefit riparian resources. Newly acquired lands with riparian/aquatic values would usually be managed under special land use restrictions which benefit these values.

Conclusion

A reduction in hot season grazing would result in improved riparian condition. Major improvement would occur in woody vegetation communities. The impact of livestock grazing management on riparian areas is shown below.

Riparian Areas (miles)	Baseline	Alt C
Satisfactory condition	35	587
Unsatisfactory condition	239	65
Undetermined	378	0

Meeting the Objectives

Objective: RIPN 1: Improve all unsatisfactory, nonfunctioning and functional-at risk categories and maintain all satisfactory and proper functioning condition riparian lands (stream, upland wet meadow, and wetlands).

This objective would be partially met in Alternative C. Implementation of grazing systems, changing utilization patterns, and ending hot season grazing will result in satisfactory and/or proper functioning condition on 90% of all riparian miles. Elimination of hot season grazing would allow riparian vegetation to establish and improve in composition, vigor, density and structure. The resulting riparian zone would be more efficient in its buffering and filtering function.

WILDLIFE HABITAT

Change Agents

Livestock grazing, livestock water developments, fencing, vegetation treatments, mining activities, OHMV activities, recreation use, national river designations, wildlife water developments, wildlife habitat exclosures, waterfowl nesting structures, land tenure adjustments and land use authorizations.

Impact Analysis

Implementation of the July 15 end-of-grazing-season constraint in pastures containing unsatisfactory riparian condition, exclusion of livestock grazing from 23 miles of riparian habitat, an initial 36% reduction in licensed AUMs, implementation of intensive grazing systems and conversion to winter grazing within the Snake River Plains is projected to result in the improvement of an additional 77% (503 miles) riparian habitat from unsatisfactory to satisfactory condition and improvement of most upland habitats. Benefits would include increased quality and quantity of late season forage, cover and water within most riparian and upland habitats, especially during the typically stressful late summer season. Livestock utilization of bitterbrush and other browse species would decrease significantly since most livestock use of browse typically occurs during mid-to-late summer after herbaceous species have cured and become less palatable. In areas of past heavy browse use by livestock, lighter use would result in increased browse vigor and forage availability for big game species, in the short term. In the long term, shrub species are generally projected to decrease as ecological condition advances and as fire frequency and acreage increases due to the increasing volume of ungrazed fine fuels after July 15. The transition to a later seral stage could result in a gradual decline in deer, sage grouse and a diversity of other wildlife species which are closely tied to shrub-dominated habitats although this could be partially or entirely offset by the increase in plant species diversity and overall increase in forage availability. It could also result in a possible increase in the number of pronghorn, bighorn sheep and other species which are better adapted to more open habitats with a lesser shrub component. This is a broad generalization however, and any major shifts in wildlife populations would depend upon a variety of factors including fire frequency and the level of fire suppression.

Adverse impacts would continue to result from early season grazing including competition for early season forage; disturbance and reduced cover within important deer and pronghorn fawning habitats and waterfowl, sage grouse and nongame bird nesting and brood-rearing habitats and continued early season disturbance of most riparian/aquatic habitats. In areas where livestock use has not been excessive, it could result in reduced browse forage availability if wildlife use is not high enough to stimulate good leader growth and keep browse within reach of big game. Conversion to winter livestock grazing within the Snake River Plains could lead to some increased forage competition between cattle and wintering big game, especially pronghorn, although, long-term improvement in habitat would result in a net increase in forage production and availability.

The types of impacts associated with livestock water developments and fences would be similar to those projected for Alternative A. However, the fewer number of both type projects along with reduced AUMs and shortened grazing seasons on many allotments would combine to reduce the degree of habitat degradation associated with these projects in Alternative C.

The combination of prescribed burning and woodcutting would result in an estimated 35,200 acres of juniper woodland (15,200 acres less than Alternative A) and 20,500 acres of sagebrush habitat (19,100 acres less than Alternative A) eliminated in Alternative C. The types of impacts would be similar to those projected for Alternative A except in those pastures where the July 15 end-of-grazing-season constraint is in effect. Treatments within these pastures would recover more quickly from the initial treatment impacts of reduced structural diversity and would provide higher quality wildlife benefits as a result of rest from late season use. In the short term, mule deer and a diversity of other species would benefit from the browse forage and structural diversity which would be retained within the 57,200 acres of juniper/sagebrush habitat protected from burning in Alternative C as compared with Alternative A. The fewer acres of sagebrush treatment could also be of direct benefit to sage grouse and other sage-dependent species, although, in some cases, treatments could actually benefit these species. The overall, long-term impact of this level of vegetation treatments is projected to be mostly beneficial, although, impacts on some species would be adverse.

Impacts of mining related activities are projected to be the same as those projected for Alternative A. Mineral exploration and development would have an increasingly detrimental impact on most wildlife species and habitats as habitat is disturbed over the next 20 years. The extent of habitat impacts would be determined by the amount of activity, advances in mining and mitigation techniques, location and other factors. Impacts would be in the form of short-term and usually, long-term habitat loss at exploration and mining locations, increased public access associated with exploration, assessment and mining roads and ways and indirect disturbance to wildlife within the vicinity of mines and exploration operations. See Map LOCM-2 for locatable mineral potential.

In Alternative C about 32,000 acres of the Owyhee Front SRMA within the Wild Horse Herd Management Area, 10,000 acres within the Snake River Birds of Prey SRMA near Fossil Butte and a similar sized area within pronghorn winter range west of Murphy would be changed from a Limited - Level 1 to a Limited - Level 5 designation. This would result in closing of about 120 miles of trails and sand washes within these areas. Benefits that could be derived from these changes include reestablishment of vegetation within closed trails and washes, resulting in improved forage and cover for a diversity of species and reduced OHMV disturbance of wildlife in the vicinity of closed trails and washes. Alternative C would also result in the changing 420,493 acres of "Open" designation to Limited - Level 4 and Level 5 and some Level 6 designations which would prohibit all cross-country OHMV activity within the area. This could result in reduced physical damage to wildlife habitat throughout the resource area and potentially reduce wildlife disturbance by OHMVs, especially during hunting seasons. Although management of OHMV activity should improve in Alternative C, it is projected that adverse impacts on most wildlife habitats and populations would continue to increase as a result of increasing use levels and an inadequate number of personnel to enforce OHMV regulations, especially within the Owyhee Front SRMA.

About 163 miles of national river designations including the four forks of the Owyhee River, Deep Creek, and portions of Nickel Creek and Current Creek would be closed to all OHMV activity with the exception of designated crossings. This would result in long-term protection of aquatic, riparian and canyon habitats and dependant wildlife species.

Other recreation program management actions in Alternative C include construction of the Guffey Butte and Jump Creek nonmotorized trails and establishment of two equestrian trailheads. Human activity on the Guffey Butte trail, designed to redirect current and projected increased use around Guffey Butte at a lower elevation, could result in disturbance to a diversity of raptor species nesting on the butte including golden eagles, prairie falcons and ferruginous hawks. Initial development of Celebration Park has already resulted in an increase in hiking activity on Guffey Butte during the nesting season and with development of this trail, the level of use would increase dramatically. This could lead to nest failures or total abandonment of this area by some or all nesting raptors including ferruginous hawks.

Construction of the Jump Creek trail would also increase recreation use of Jump Creek Canyon resulting in increased disturbance to cliff-nesting raptors and a large diversity of other species associated with canyon/riparian habitats. Currently, much of the upper canyon is nearly inaccessible and relatively undisturbed. Both short-term and long-term impacts of these trails is projected to be adverse.

Establishment of two equestrian trailheads would result in increased levels of horseback riding and camping use within the Owyhee Mountains. This would result in deterioration of habitat along the trails and camp sites and some disturbance to wildlife within the immediate vicinity of trail and camps. Overall short-term and long-term impacts from trailhead establishment are projected to be slightly adverse.

Designation of 163 miles of national rivers would result in withdrawal of these reaches from mineral entry and avoidance of potential impacts associated with mineral exploration and mining. It would preclude any impacts on wildlife or wildlife habitat associated with mining activities. It would also result in strict limitations on vehicle travel and associated impacts as projected above. Both short-term and long-term impacts are projected to be beneficial.

The types of impacts from wildlife project developments would be the same as for Alternative A. However, because of the emphasis on improvement of riparian habitats by either rapid implementation of suitable grazing systems or implementation of the July 15 end-of-grazing-season constraint, 113 fewer miles of habitat exclosures would be constructed in Alternative C. This would result in less disturbance and fewer impediments to wildlife movement but would also result in slower improvement and less overall improvement within these 113 miles of mostly riparian habitat which would have received total exclusion in Alternative A. Short-term and long-term impacts of these actions would still be beneficial.

Impacts of land tenure adjustments would be the same as those projected for Alternative A.

Impacts of land use authorizations would be the same as those projected for Alternative A.

Conclusion

The overall impact of Alternative C is projected to be beneficial for most species primarily based upon the substantial reduction in livestock grazing season and AUMs and conversion of most of the Snake River Plains to winter grazing. Riparian/wetland habitats would experience the most significant and rapid improvement which would lead to improved habitat and increased numbers of a large diversity of wildlife species. Other management actions that would benefit wildlife include some vegetation treatments, more restrictive OHMV management throughout most of the resource area, national river designation, and development of wildlife water projects, nesting structures and habitat exclosures. Adverse impacts would include increased emphasis on early season grazing within important spring wildlife habitats such as deer and pronghorn fawning habitat, waterfowl and nongame bird nesting habitat, sage grouse nesting and brood rearing habitat; livestock winter use of big game winter habitat during harsh winters; increasing OHMV activity especially within the Owyhee OHV SRMA; and recreation facility development. In the long term, upland habitats would slowly shift to a later ecological stage with a concurrent shift in wildlife species composition to one adapted to a more open landscape with less tree and shrub cover and more grasslands.

Meeting the Objectives

Objective WDLF 1: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of big game species within the Owyhee Resource Area including 1,246,000 acres of mule deer habitat, 50,000 + acres of elk habitat and 819,000 acres of pronghorn habitat.

This objective would be met. Major contributing change agents would include significant reductions in AUMs and length of the grazing season and some vegetation treatments. Other benefits would be derived from wildlife water development, development of habitat exclosures, more restrictive OHMV regulations and some land tenure adjustments. Generally, as most ecological sites within the resource area advance toward a later seral stage the upland shrub component would decline. This could have a long-term adverse impact on deer which are closely tied to shrub-dominated habitats, although, suspension of livestock use from many areas after July 15 could partially or entirely compensate for reduced shrub densities by resulting in increased plant species diversity and less competition for late season forage and cover. Gradual change to a later seral stage should generally favor pronghorn, bighorn sheep and elk, which are adapted to these conditions.

Objective WDLF 2: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of upland game including 904,000 acres of sage grouse habitat, 547,000 acres of chukar habitat and 29,000 acres of pheasant habitat.

This objective would be met for most or all upland game species. The major contributing change agent would be the shortened livestock grazing season, and reduction in allocated AUMs. This would lead to rapid improvement of most riparian habitat which is a key habitat type for most upland game species. Other benefiting actions would include development of wildlife waters, habitat exclosures and cooperative farming agreements; some woodcuts; more restrictive OHMV regulations and some land tenure adjustments. The projected increase in frequency and size of wildfires resulting from late season fuel availability, in addition to 55,700 acres of prescribed burning, could result in a substantial loss of big sagebrush habitat. This could lead to reduced distribution and abundance of sage grouse within the resource area but would be offset, at least partially, by the improvement in wet meadow brood-rearing habitat and increased nesting cover provided by bunchgrasses and other herbaceous vegetation resulting from more restrictive livestock grazing.and proper design and implementation of prescribed burns.

Objective WDLF 3: Maintain satisfactory and improve unsatisfactory riparian/wetland habitat for waterfowl, furbearers and a diversity of other game and nongame species.

This objective would be met with an estimated 90% (587 miles) of riparian habitat being in satisfactory condition after 20 years. This is a 77% improvement over current conditions and a 58% improvement over Alternative A. The primary change agent would be the July 15 end-of-grazing-season constraint in pastures containing unsatisfactory riparian condition. Other contributing actions would be AUM reductions, livestock management projects, riparian/wetland habitat exclosures, island development, more restrictive OHMV regulations and some land tenure adjustments. Refer to the Riparian section for more specific analysis.

Objective WDLF 4: Maintain satisfactory and improve unsatisfactory habitat for a large diversity of nongame wildlife on 1.3 million acres.

This objective would be met. Because of the large diversity of nongame wildlife with widely differing habitat requirements, any action is likely to benefit certain species while adversely effecting others. The only way to insure that most species and their habitats are adequately protected is to manage for a natural mosaic of all native vegetation community types in mostly mid-to-late seral stages. Alternative C would maintain sufficient habitat diversity and quality to insure the continued existence of all species currently found within the resource area while improving habitat conditions for most species.

Improvement of riparian/wetland habitat, primarily through implementation of the July 15 end-of-grazing-season constraint in pastures containing unsatisfactory riparian condition, would have the most profound beneficial influence on nongame species because it supports the highest number and diversity of wildlife species and contains crucial habitat components for the majority of species within the resource area. Other benefitting actions would include development of wildlife water projects and habitat exclosures, more restrictive OHMV regulations, some vegetation treatments and some land tenure adjustments. Vegetation treatments, especially burns, would likely reduce species diversity by reducing the shrub and tree component within the treatment area but would increase diversity along the treatment edge. By designing treatments to main large interconnected blocks of major habitat types viable populations of all species would be maintained. As the size and frequency of natural burns increase and habitats move towards a later seral stage there would be a concurrent shift in nongame species composition to a mix better adapted to a more open landscape with a lower percentage of woody species.

Although habitat throughout most of the resource area would be maintained or improved in Alternative C, habitat and population disturbance would continue to increase for most nongame and some game species, especially within the Owyhee Front SRMA. OHMV activity in this area would continue to increase substantially and adverse impacts on wildlife habitat and populations would be unavoidable without a substantial increase in enforcement.

FISHERY HABITAT

Change Agents

Livestock grazing, mining activities, OHMV activities and prescribed burning.

Impact Analysis

Implementation of the July 15 end-of-grazing-season constraint in pastures containing unsatisfactory condition fish habitat, a 47,028 (35%) AUM reduction in grazing over 20 years, implementation of intensive grazing systems and conversion to winter grazing within the Snake River Plains would result in long-term improvement in riparian condition. Over 20 years, as riparian condition improves, 90% (460 miles) of all stream miles throughout the resource area would achieve satisfactory fish habitat condition. Changes in streambanks and woody vegetation structure would result in long-term improvement in fish habitat condition and aquatic species biodiversity.

Nonpoint source mining impacts on fish communities and biodiversity would be the same as described in Alternative A. Nonpoint source mining impacts would not change from current levels.

Point source impacts on fish communities and biodiversity from mining would be the same as described in Alternative A. Point source mining impacts would not change from current levels.

Adverse OHMV impacts on fish communities and aquatic biodiversity would decrease in Alternative C. The type of impact would be the same as described for Alternative A. The number of acres with few limitations on OHMV use would decrease by about 42% compared with Alternative A. About 19% would be closed to OHMV use. Adverse impacts would occur primarily along the Owyhee Front.

Adverse impacts on fisheries habitat from prescribed burns would be of the same type as those described in Alternative A. Prescribed burns would be limited to a maximum of 9,000 acres annually with about 64,400 acres burned over the next 20 years. This would be a 47% decrease from Alternative A.

Land tenure adjustments to consolidate public lands would generally benefit aquatic resource values. Newly acquired lands with aquatic values would be managed with special land use restrictions which benefit these values.

Conclusion

Effects on native fish communities and aquatic biodiversity would be beneficial. The condition of aquatic species habitat would improve over the short term and long term. The impact of grazing management on fish habitat, native fish communities, and aquatic biodiversity are shown below.

Fish Habitat (miles)	Baseline	Alt C
Satisfactory condition	42	460
Unsatisfactory condition	469	51

Meeting the Objectives

Objective: FISH 1: Improve unsatisfactory condition and maintain satisfactory condition habitat to support native fish so that all perennial streams are in satisfactory condition in twenty years.

This objective would be partially met in Alternative C. Elimination of hot season grazing would improve vegetative cover, structure, and streambank stability resulting in satisfactory condition on 90% of all stream miles. This would help offset the adverse impacts that early season grazing would have along streams and impacts from other surface disturbing activities such as OHMVs, mining, and prescribed burns.

Objective: FISH 2: Improve reservoir fisheries when appropriate, in consultation with State agencies and adjacent landowners.

This objective would be partially met in Alternative C. Reservoirs located on-stream would be affected by the quality of upstream water. Poor buffering and filtering function of degraded upstream riparian areas would result in higher sediment loads and increased contamination of these reservoirs.

SPECIAL STATUS SPECIES

Special Status Plants

Change Agents

OHMV activities, livestock grazing, mining activities, vegetation treatments, livestock water developments, fencing, recreation use, land use authorizations, land tenure adjustments, plant collecting, ACEC designations and national river designations.

Impact Analysis

In Alternative C, about 32,000 acres of the Owyhee Front SRMA within the Wild Horse Herd Management Area, 10,000 acres within the SRBOPNCA near Fossil Butte, and a similar sized area within pronghorn winter range west of Murphy would change from a Limited - Level 1 to a Limited - Level 5 and Limited - Level 6 OHMV use designation. This would result in closing about 140 miles of trails and sand washes within these areas. Benefits to be derived would include elimination of OHMV disturbance of several special status plants or their populations that occur in the vicinity of the closed trails and washes. These species include Cusick's false yarrow, annual brittlebrush, Malheur yellow phacelia, white eatonella, Janish's penstemon, white-margined wax plant, and Snake River milkvetch.

Alternative C would also result in changing 420,493 acres of "Open" OHMV designation to Limited - Level 4 and Level 5 and some Level 6 designations which would eliminate cross-country OHMV activity. This, and the "Closed" area around the Owyhee Canyonlands, would result in reduced disturbance of the special status plant populations and their habitat that occur in theses areas. While the overall impacts of the OHMV designations identified in Alternative C are projected to be beneficial, adverse impacts on special status plants within the remainder of the resource area would continue to increase as projected for Alternative A because of rapidly increasing use levels, particularly in the Limited - Level 1 area of the Owyhee Front.

A 30% reduction in AUMs, implementation of intensive grazing systems and conversion to winter grazing within the Snake River geographic reference area is projected to have an overall beneficial impact on special status plants. As upland plant communities advance their ecological condition, populations of associated special status plants are projected to stabilize and could potentially increase. Implementation of the July 15 end-of-grazing-season constraint in pastures containing unsatisfactory riparian conditions would probably benefit Hall's rush and rattlesnake stickseed, two species that grow in riparian or wetland habitats.

Mining activities would have the same type of long-term adverse impacts on special status plants as projected for Alternative A, but impacts would occur on fewer acres since additional areas would be restricted or closed to mining activities in Alternative C within the boundaries of special designation areas including ACECs, RNAs and ONAs. Species that would benefit in Alternative C include smooth stickleaf, Malheur yellow phacelia, Cusick's false yarrow, and barren milkvetch. Adverse impacts would primarily be in the form of loss of habitat and direct destruction of individuals and populations with the extent of impacts generally determined by the amount of activity.

In Alternative C, 47,300 acres of juniper are identified for removal compared with 72,700 acres in Alternative A. The acreage identified for cutting is the same for both alternatives (17,000 acres), while acres recommended for burning would be decreased by nearly 45% (to 30,300 acres) in Alternative C. Because only three of the 31 special status plants known from the resource area may be associated with the western juniper vegetation type (Osgood Mountains milkvetch, white eatonella, dimersia), most species would be unaffected by juniper removal. The types of impacts on these three species would be similar to those projected for Alternative A, however the number of acres recommended for treatment and therefore potential adverse impacts on special status plants is significantly lower.

Sagebrush treatment is identified on a total of 34,100 acres in Alternative C, about 31,800 acres fewer than in Alternative A. Only prescribed burning of sagebrush is identified in Alternative C, with no post-burn seeding projected. Impacts on special status plants would be similar to those described in Alternative A for prescribed burns alone. The adverse impacts projected for burning and seeding in Alternative A would not occur in Alternative C. The overall impact of sagebrush treatments on special status plants identified in Alternative C are projected to be none to somewhat beneficial.

Livestock water development impacts are projected to be similar to those for Alternative A. Livestock reservoirs (11), pipeline miles and associated troughs (22 miles), and spring developments (13) could result in long-term indirect adverse impacts on some special status plant species, primarily by moving livestock into areas that were previously little used. Due to the greater number of pipelines identified in Alternative C, adverse impacts are projected to be slightly higher than in Alternative A. While direct impacts on special status plants depend upon exact project locations, in general, water development impacts are projected to be minimal, since site examinations would be conducted prior to project approval. Thirty-two fewer springs and 8 less reservoirs are identified in Alternative C than in Alternative A. In some cases, special status plants could benefit by improved dispersion of livestock, when the development facilitates the movement of livestock away from rare plant populations.

As projected in Alternative A, the impact of 52 miles of pasture fence and 24 miles of exclosure fence construction on special status plants would be adverse if it results in livestock concentrating within special status species habitat. In most cases, direct adverse impacts would be avoided by conducting field examinations prior to project approval. Fencing could benefit special status plants when the fence improves livestock distribution and relieves pressure on their habitat. In Alternative C, the risk of causing indirect adverse pressures on special status plants is projected to be less than in Alternative A due to the 27 fewer miles of pasture fence in Alternative C.

Development of additional recreation sites and equestrian and hiking trailheads prescribed in Alternative C would increase use and associated human disturbance at these and adjacent areas. Impacts on special status plants would be similar to those in Alternative A except that the overall impacts would potentially cover a larger land area. The potential for special status plants to be adversely impacted at trailheads and recreation sites is low because of the field exam procedure prior to any development. However, long-term adverse impacts on adjacent unsurveyed areas are projected as increased use would cause deterioration of habitat and result in the spread of exotic plants into native habitat, including the habitat of special status plants.

The overall impact from land use authorizations on special status plants would be the same as for Alternative A. Prior to approval and issuance of any right-of-way, lease, or permit, site examinations for special status plants would be conducted. While adverse impacts could occur if examinations were done at an inappropriate time of year, generally there would be no direct impact. However, because land use authorizations could result in substantial surface disturbance, special status plants could be indirectly impacted by fragmentation of the overall habitat and the introduction of exotic species into disturbed areas.

Land tenure adjustments would have the same impact on special status plants as those projected for Alternative A. Adjustments would generally be beneficial due to the Bureau's policy on disposal of special status species. Most adjustments result in acquisition of high quality habitat or other significant biological resources, including special status species. Many of these adjustments also result in the consolidation of public ownership in ACECs, WSAs, and national river corridors, where special status species management capabilities are more favorable.

The impacts on special status plant species from collecting would be the same as those projected for Alternative A. Impacts could be slightly adverse over the long term. While plant collecting on public lands in Idaho is perceived to be minimal at the present time, increasing human population would put additional pressures on all resources. Enforcement and education are the only mechanisms for preventing these impacts. The principle species that would likely be affected include Simpson's hedgehog cactus and cushion cactus.

Designation of 17 areas as ACECs, RNAs and ONAs would have a long-term highly beneficial impact on special status plant species, with numerous plant populations given special management protection within the boundaries of those designated areas.

The impact of 163 miles of national river designations is generally projected to be the same as for Alternative A. Designation would result in withdrawal of these reaches from mineral entry and avoidance of potential impacts associated with mining. It would also result in vehicle access limitations and commercial recreation permitting, limiting impacts associated with these actions. Because visitor use is projected to increase regardless of designation, several special status plants found within the river canyons and adjacent areas could be adversely impacted, primarily by trampling in areas of concentrated use, such as campsites. These include rattlesnake stickseed, dimersia, white eatonella, dwarf skullcap, and Simpson's hedgehog cactus. While long-term adverse impacts on these five species could occur, the overall long-term projection for Alternative C is beneficial for special status plants.

Conclusion

The overall impact of Alternative C on special status plants is projected to be beneficial. Management actions that would benefit special status plants include the more restrictive OHMV management strategies; some land tenure adjustments; designation of 17 areas as ACECs or ONAs; and national river designations. Adverse impacts would continue as a result of mining related activities, increasing levels of OHMV activity, and to some degree, livestock grazing.

Meeting the Objectives

Objective SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

As discussed in Alternative A, the lack of baseline inventory and monitoring data for most special status plants makes it difficult to accurately project impacts from the management actions identified in Alternative C. While the identified management in Alternative C would have a beneficial impact overall and would facilitate meeting the objective for some special status plants, increasing OHMV activity and the unpredictability associated with mining activities could preclude meeting the objective for some plant species, particularly in the Snake River geographic reference area.

Special Status Animals

Change Agents

Livestock grazing, livestock water developments, fencing, vegetation treatments, mining activities, OHMV activities, recreation use, ACEC and national river designations, wildlife water developments, habitat exclosures, nesting structures and islands, land tenure adjustments, land use authorizations and species reintroductions.

Impact Analysis

Implementation of the July 15 end-of-grazing-season constraint in pastures containing unsatisfactory riparian condition, a 36% reduction in AUMs, implementation of intensive grazing systems, conversion to winter grazing within the Snake River Plains and fencing to exclude livestock from 52 miles of riparian habitat would result in a total of 90% (586 miles) of riparian habitats being in satisfactory condition after twenty years. This would be a 77% improvement over the current situation and 58% improvement over Alternative A. Most upland special status species habitats are also expected to improve. Benefits would include increased quality and quantity of late season forage, cover and water within most riparian and upland habitats, especially during the typically stressful late summer season. Substantial improvement in riparian habitats would benefit a number of special status species possibly including the mountain quail, white pelican, black tern, Preble's shrew, northern leopard frog, spotted frog, western toad and redband trout. In the long term, a portion of the area dominated by sagebrush, bitterbrush, juniper and other fire intolerant shrubs and trees is projected to gradually convert to more open habitats as fire frequency and acreage increases due to the increasing volume of ungrazed fine fuels remaining after July 15. This could result in a gradual loss habitat for pygmy rabbit but could increase habitat for others including long-billed curlew, burrowing owl and California bighorn sheep. This is a broad generalization, however, and the extent of any major fire induced habitat conversions would depend upon a variety of factors including weather patterns, fire frequency and the level of fire suppression.

In Alternative C there would be 13 springs developed (32 fewer than in Alternative A), 22 miles of pipeline (19 more than Alternative A) and 11 reservoirs (8 fewer than Alternative A). This would result fewer acres of disturbance from livestock grazing in the vicinity of these projects and would reduce the likelihood of adversely impacting habitat for special status species. Beneficial impacts of these water developments would also be reduced. Any impacts on special status species would depend upon exact project locations but would be similar in nature to those described for Alternative A.

An estimated 76 miles of additional fence including 52 miles of pasture fence and 24 miles of riparian exclosure fence would be constructed in Alternative C. This would be 85 miles less than that identified in Alternative A and could result in less overall disturbance of special status species habitats from fence construction and livestock trailing. Pasture fences would facilitate implementation of improved livestock grazing systems which would generally benefit both riparian and upland habitats for a diversity of species.

The combination of prescribed burning and woodcutting would result in the elimination of an estimated 35,200 acres of juniper woodland (15,200 acres less than Alternative A) and 20,500 acres of sagebrush habitat (19,100 acres less than

Alternative A). Types of impacts would be similar to those projected for Alternative A except in those pastures where the July 15 end-of-grazing-season constraint is in effect. Treatments within these pastures should recover more quickly from the initial treatment impacts and provide higher quality wildlife benefits as a result of rest from late season use. Fewer acres of sagebrush treatment and reduced acreage of juniper treatment with sagebrush understory would result in fewer acres of pygmy rabbit habitat lost to prescribed burning, although, this could be overshadowed by the projected increase in habitat burned by natural fires.

Impacts from mining activities are projected to be the same as those projected in Alternative A except that an additional 69 miles of special river designations would be excluded from mineral entry.

In Alternative C about 32,000 acres of the Owyhee Front SRMA within the Wild Horse Herd Management Area, 10,000 acres within the Snake River Birds of Prey SRMA near Fossil Butte and a similar sized area within pronghorn winter range west of Murphy would be changed from a Limited - Level 1 to a Limited - Level 5 designation. This would result in closing of about 120 miles of trails and sand washes within these areas. Benefits that could be derived from these changes include reestablishment of disturbed vegetation within closed trails and washes, resulting in improved forage and cover for special status animal species within these areas and elimination of OHMV disturbance of special status species in the vicinity of closed trails and washes. Special status species that could be beneficially impacted include the mojave black-collared western ground snake, long-nosed snake, long-billed curlew, burrowing owl, ferruginous hawk, kit fox and pygmy rabbit. Alternative C would also result in changing 420,493 acres of "Open" designation to a Limited - Level 4 and Level 5 and some Level 6 designations which would eliminate all cross-country OHMV activity within the resource area. This could result in reduced disturbance to special status animal species habitats, especially during hunting seasons when use would be heaviest throughout much of the resource area. An additional 69 miles of national river designations including the four forks of the Owyhee River, Deep Creek, and portions of Nickel Creek and Current Creek would be closed to all OHMV activity with the exception of designated crossings. This could result in long-term protection of aquatic, riparian and canyon habitats and dependant special status species. Although management of OHMV activity should improve in Alternative C, it is projected that because of rapidly increasing use levels and the inability to adequately enforce OHMV regulations, adverse impacts on special status species, especially within the Owyhee Front SRMA would continue to increase. The overall impacts of the OHMV actions in Alternative C are projected to be beneficial only in terms of dampening the adverse impacts of increasing use levels and only if there is a significant increase in enforcement of OHMV regulations.

Other recreation program management actions in Alternative C include construction of the Guffey Butte and Jump Creek nonmotorized trails and establishment of two equestrian trailheads. Human activity on the Guffey Butte trail, designed to redirect current and projected increased use around Guffey Butte at a lower elevation, could result in disturbance to a diversity of raptor species nesting on the butte including ferruginous hawks. Initial development of Celebration Park has already resulted in an increase in hiking activity on Guffey Butte during the nesting season and with development of this trail, the level of use would likely increase substantially. This could conceivably lead to nest failures or total abandonment of this area by some or all nesting raptors including ferruginous hawks.

Construction of the Jump Creek trail would also increase recreation use and associated human disturbance within Jump Creek Canyon resulting in increased disturbance and adverse impacts on redband trout and possibly mountain quail, Preble's shrew and one or more of the special status bat species. Redband trout is the only special status species currently known to occur in Jump Creek but the canyon has been identified as a potential reintroduction site for mountain quail and could contain suitable habitat for one or more of the other species. At present much of the upper canyon is nearly inaccessible and relatively undisturbed. Both short-term and long-term impacts of these trails are projected to be adverse.

Establishment of two equestrian trailheads would result in increased levels of horseback riding and camping use within the Owyhee Mountains. This would result in deterioration of habitat along the trails and camp sites and some additional disturbance to any special status animal species within the immediate vicinity of trails and camps. Overall short-term and long-term impacts from trailhead establishment are projected to be slightly adverse.

Designation of a total of 163 miles of national rivers in Alternative C, as apposed to 94 miles in alternative A, would result in withdrawal of an additional 69 miles of these reaches from mineral entry and avoidance of potential impacts associated with mineral exploration and mining. It would also result in strict limitations on vehicle access and travel and commercial recreation permitting, thereby limiting impacts typically associated with these actions. Special status species potentially affected and likely to benefit would be the same as for Alternative A and include bald eagles, peregrine falcon, mountain quail, white pelican, Preble's shrew, one or more of the special status bat species, California bighorn sheep, northern leopard frog, spotted frog, ringneck snake, longnose snake and redband trout. Both short-term and long-term impacts are projected to be beneficial.

Establishment of new ACECs and enlargement of the Owyhee River Bighorn Sheep ACEC would result in various levels of protection from most surface disturbing land use authorizations within ACEC boundaries which would benefit most special status species present.

Impacts from land use authorizations and land tenure adjustments would be the same as those identified for Alternative A except where specific use authorizations are limited by additional ACEC and national river designations, as already discussed.

Facilitating the reintroduction of peregrine falcons, mountain quail, Colombian sharptail grouse, California bighorn sheep or other special status animal species into suitable, unoccupied habitats would have a very beneficial impact on these species/subspecies. Establishment of additional viable populations could contribute to the eventual downlisting or delisting of the peregrine falcon and help prevent possible listing of others.

Establishment of additional bald eagle roost trees within bald eagle winter habitat along the Snake River would have a beneficial impact on wintering bald eagles populations by enhancing a habitat component that is currently very limited.

Protection of all existing and potential goshawk nesting habitat by prohibiting the cutting or burning of all woodland habitats (excluding western juniper) would have a beneficial impact on this species by helping to ensure the continued existence of suitable nesting habitat.

Conclusion

The overall impact of Alternative C is projected to be beneficial for many special status animal species. Special status animal species associated with riparian/wetland habitats would experience the most significant and immediate benefits in response to the July 15 end-of-grazing-season constraint in riparian pastures and limited riparian exclosure fencing. Other management actions that would benefit special status animal species include some prescribed burns and woodcuts, more restrictive OHMV management throughout most of the resource area, national river designation, some land tenure adjustments, small habitat exclosures, nesting structures, protection of most woodland habitats and reintroductions. Adverse actions would include some prescribed burning treatments, increasing levels of OHMV activity and most other recreational activities and, continued disturbance and habitat loss associated with mining related activities and some land use authorizations.

Meeting the Objectives

Objective SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

This objective would likely be met for some, but not all, special status animal species. As already discussed, the lack of baseline inventory and monitoring data for most special status animal species makes it difficult to determine how current management is affecting most of these species or to accurately project which ones would respond to allocations and management actions. With this in mind, several change agents are projected to have a substantial impact on special status animal species. One would be the July 15 end-of-grazing-season constraint in riparian pastures and long term adjustments in livestock grazing management directed at improvement of riparian habitat condition. This would have a beneficial impact on riparian/aquatic dependant special status animal species and would facilitate meeting the objective for those species. Another major action would be continued authorization of intensive OHMV activity, especially within the Owyhee Front SRMA. This is projected to have a continued adverse impact on some special status animal species within this area and could preclude meeting the objective for these species, although, the more restrictive OHMV management actions should help to limit these impacts. Mining activity and potential increases in naturally occurring fires are largely unpredictable but are likely to result in a loss of some special status species habitat.

WILD HORSE MANAGEMENT

Change Agents

Recreation use, OHMV activities, mining activities, fencing, vegetation treatments and livestock grazing.

Impact Analysis

There is a projected increase in recreation use, including OHMV use, within the resource area. Much of the increased OHMV use is projected in the Owyhee Front SRMA. The Black Mountain and Hardtrigger HMAs would be located totally within the Owyhee Front SRMA. The areas within the Hemingway Butte, Northwest Rabbit, and Southwest Rabbit pastures containing 15,657 acres would not be managed for wild horses in Alternative C because of the increased motorized use in this area. The reduction in acreage in the Black Mountain HMA would have long-term effects on the wild horses by reducing living space. An area of about 3,990 acres adjacent to the Hemingway Butte Trailhead within the North Rabbit pasture would remain an HMA. This area would be heavily affected by OHMVs traveling between the Rabbit Creek and Hemingway Butte Trailheads. This area would be designated Limited - Level 1, allowing use on existing roads, jeep trails, motorcycle trails, and sand washes. The remaining 84,940 acres within the HMAs would be designated Limited - Level 5. This would reduce potential contact with motorized recreation and would reduce stress on the wild horses. Establishment of designated boundaries through signing would increase public awareness. This would allow the wild horses to remain undisturbed within the remaining historic use areas.

Short-term adverse impacts are projected in the HMAs until adequate law enforcement and signing programs are implemented. However, in Alternative C, provisions to limit public interaction could be implemented if monitoring indicates unacceptable interaction between OHMV use and wild horses is or would be occurring. Because of potential areas of restriction, increased public awareness and interpretive signing, major long-term impacts are not projected. Organized groups of greater than 15 people in Limited - Level 5 areas, which is the majority of the remaining HMAs, would not be allowed. Organized equestrian events would not be allowed within HMAs. Group size restrictions and other permitting requirements would be beneficial. The overall impacts from OHMV management are projected to be beneficial only if there is a significant increase in enforcement of the OHMV regulations.

Exploration and development of locatable minerals resources in HMAs could have an increasing detrimental impact on wild horses as habitat is disturbed over the next 20 years within the Black Mountain and Hardtrigger HMAs. The extent of habitat impacts would be determined by the amount of activity, advances in mining and mitigation techniques, location and other factors. Impacts would be in the form of short-term and long-term habitat loss at exploration and mining locations, increased public access associated with exploration, assessment and mining roads and ways and indirect disturbance to wild horses within the vicinity of mines and exploration operations. See Map LOCM-2 for locatable mineral potential. The HMAs would remain open for exploration and development of locatable minerals. Should locatable mineral exploration activities increase to the point of causing adverse impacts, measures would be taken to control such activities and to revise the herd management area plan (HMAP).

In Alternative C, there would be a year-long surface occupancy constraint for fluid mineral activities which would prevent displacement of wild horses from historic use areas.

Fences within HMAs would not be beneficial to wild horses. Gates along fences, if not opened in a timely manner after authorized domestic livestock grazing periods, would reduce winter range access and free-roaming behavior. If habitat or riparian exclosures or fences are constructed, the projects would be designed to not impact water access and the free-roaming behavior of the wild horse.

Vegetation treatments would have short-term impacts on the wild horses. Wild horses would not be allowed on treatment areas for two growing seasons, however, after that period the wild horses would benefit from the increased forage.

When domestic livestock use is balanced with forage production the wild horses would be assured of adequate forage. Short-term impacts could occur during years of low forage production or high annual utilization. Identifying historic winter ranges and implementing a no-greater-than 40% utilization limit during the domestic livestock grazing season would assure adequate forage resulting in beneficial impacts on the general health and vitality of the herd. During spring, summer and fall periods of domestic livestock use the normal habits of the wild horses could be interrupted temporarily and have little impact. However, a change to a winter season-of-use for cattle would have an adverse impact on the wild horses. Winter grazing of cattle within historic horse winter ranges would prevent seasonal migration and reduce forage availability for the wild horses when cattle are present. Concentrated horse use could occur in areas between summer ranges and the fences around their winter ranges. The appropriate management level (AML) would likely be reduced by not allowing the wild horses into these historic winter ranges.

Conclusion

Establishment of the wild horse range would result in management of this area principally for wild horses. Long-term benefits of this management would be high demand for wild horses during adoptions and increased public awareness of the wild horse resource. Opportunities would be available for public viewing from an interpretive route through the area.

Overall, it is projected that this alternative would have a beneficial impact on wild horses with the exception of the adverse impacts associated with a season-of-use change to winter grazing for livestock.

Meeting the Objectives

Objective WHRS 1: Maintain wild and free-roaming horses in the Owyhee Wild Horse Herd Management Areas (HMAs) at appropriate management levels (AML) within a thriving natural ecological balance.

In Alternative C, with the exception of any change of season-of-use to winter grazing for cattle, it is projected that the wild horses would not be adversely impacted over the long term. The majority of the HMAs would be designated a Limited - Level 5 OHMV area which would reduce public contact and cause the wild horses less stress. Identifying winter ranges and assuring adequate forage is available would maintain healthy herds. Existing fences within the HMAs currently adversely impact the free-roaming behavior and accessibility to water and seasonal ranges. The existing fences would be modified to reduce the current impact and new fences would be designed to not adversely impact the free-roaming behavior of the wild horses. Management of the wild horses would be improved because public awareness would be increased through interpretative signing of the HMAs and the establishment of a wild horse range.

Projected impacts on specific wild horse needs are shown on the following page.

Impacts on General Health and Free Roaming Opportunity

Components	Baseline	Short-Term	Long-Term
Forage Allocation	2,329 AUMs	2,329 AUMs	2,329 AUMs
Viability Level	118 head	118 head	118 head
Estimated Herd Size	178 head	AML	AML
General Health	0	0	0

Free Roaming Opportunity

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	N/A	N/A
0521	Seeding	2	0	N/A	N/A
0521	Bridge Creek	3	0	N/A	N/A
0522	Rats Nest	1	+	+	+
0556	Shares Basin	1	0	0	0
0513	Elephant Butte	3	-	N/A	N/A
0516	Opalene	3	0	0	0
0516	Hardtrigger	4	0	0	0
0516	Piute	5	0	0	0
0516	Hemingway	1	-	N/A	N/A
0508	Wilson	1	0	0	0
0508	Soldiers Cap	3	0	0	0
0508	Salmon Butte	4	-	0	0
0508	Whiskey Hill	5	N/A	0	0
0508	Alkali	6	N/A	0	0
0651	North Rabbit	1	0	-	0
0651	Little Kane	2	0	0	0
0651	State	4	0	0	0
0517	West Rabbit (N)	1	-	N/A	N/A
0517	West Rabbit (S)	2	-	N/A	N/A
0517	Kane Spring	3	0	0	0
0517	Moores Creek	6	-	0	0
0517	South Rabbit	5	0	0	0
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

Water Availability for Wild Horses in HMAs on a Year Long Basis

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	N/A	N/A
0521	Seeding	2	0	N/A	N/A
0521	Bridge Creek	3	-	N/A	N/A
0522	Rats Nest	1	0	0	+
0556	Shares Basin	1	0	0	+
0513	Elephant Butte	3	-	N/A	N/A
0516	Opalene	3	0	0	0
0516	Hardtrigger	4	0	0	0
0516	Piute	5	0	0	0
0516	Hemingway	1	-	N/A	N/A
0508	Wilson	1	0	0	0
0508	Soldiers Cap	3	0	0	0
0508	Salmon Butte	4	0	0	0
0508	Whiskey Hill	5	N/A	0	0
0508	Alkali	6	N/A	0	0
0651	North Rabbit	1	-	-	0
0651	Little Kane	2	0	0	0
0651	State	4	0	0	0
0517	West Rabbit (N)	1	-	N/A	N/A
0517	West Rabbit (S)	2	0	N/A	N/A
0517	Kane Spring	3	0	0	0
0517	Moores Creek	6	0	0	0
0517	South Rabbit	5	0	0	0
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

Public Interaction/Contact with Wild Horses Resulting in Disturbance

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	N/A	N/A
0521	Seeding	2	0	N/A	N/A
0521	Bridge Creek	3	0	N/A	N/A
0522	Rats Nest	1	-	-	0
0556	Shares Basin	1	0	0	0
0513	Elephant Butte	3	-	N/A	N/A
0516	Opalene	3	-	-	0
0516	Hardtrigger	4	0	0	0
0516	Piute	5	0	0	0
0516	Hemingway	1	-	N/A	N/A
0508	Wilson	1	-	-	0
0508	Soldiers Cap	3	0	0	0
0508	Salmon Butte	4	0	0	0
0508	Whiskey Hill	5	N/A	0	0
0508	Alkali	6	N/A	0	0
0651	North Rabbit	1	-	-	-
0651	Little Kane	2	0	0	0
0651	State	4	0	0	0
0517	West Rabbit (N)	1	-	N/A	N/A
0517	West Rabbit (S)	2	-	N/A	N/A
0517	Kane Spring	3	+	0	0
0517	Moores Creek	6	+	0	0
0517	South Rabbit	5	+	0	0
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

LIVESTOCK GRAZING MANAGEMENT

Change Agents

Riparian management practices, vegetation treatments, range improvements, winter grazing, wild horse management, interim management policy for wilderness study areas, national river designations, ACEC designations and mining activities.

Impact Analysis

Active preference is currently 136,285 AUMs with a average licensed use of 115,144 AUMs. Alternative C would result in a 5-year preference of 89,257 AUMs and a projected 20-year preference also of 89,257. See Table LVST-C for forage allocations by allotment.

Pastures containing riparian ecosystems identified in less-than-satisfactory condition would receive no livestock grazing after July 15 of the grazing season. This constraint would be implemented within two grazing seasons after approval of the RMP. Some of the projected initial reductions in AUMs would potentially become available as best management practices are implemented and riparian ecosystems attain satisfactory condition. See Table RIPN-1 and Map RIPN-4 for affected allotments and pastures. Active preference by allotment is shown in Table LVST-C.

Vegetation treatments (prescribed burning) would result in a short-term loss of 6,687 AUMs during prescribed burn management because of rest from livestock grazing for three consecutive growing seasons; one growing season before the burn (to insure sufficient fuel to carry a fire) and two growing seasons after the burn (to enhance vegetation establishment). The long-term impacts would result in an increase of 33,437 AUMs potentially available in the prescribed burn areas due to regrowth and seeding. It is not projected that the vegetation treatments would result in increased active preference on any allotment but some potential AUM reductions could be averted. See Table LVST-3 for potential vegetation treatments.

Vegetation treatments	Prescribed Burn	Burn and Seed	Total
Acres	64,400	0	64,400
Short-term reductions (AUMs)	6,687	0	6,687
Long-term production (AUMs)	33,437	0	33,437

Range improvement projects (water developments and fences) needed to implement allotment grazing systems and manage livestock distribution would be designed to decrease unsatisfactory rangeland conditions and to meet other resource objectives. New fences would be designed and constructed and existing fences would be modified to meet Lower Snake River District Fence Policy standards for the wildlife species present to minimize barriers to big game movement. See RISP-1 and Figure WLDF-1. With increased recreation use, the increased projects for livestock grazing could result in increased recreation facilities to reduce potential livestock/recreation conflicts. Cattleguards and other facilities would be constructed as necessary where new projects impede recreation movement. With implementation of the RMP and the subsequent allotment analysis, interpretation and evaluation process, any range projects would be projected to have a beneficial impact upon stocking rates by helping to avert potential AUM reductions. See Table LVST-3 for potential range improvement projects for Alternative C.

Those pastures in the Snake River geographic reference area that are below 3,500 feet in elevation would have a season-of-use change from spring to winter. This would allow slow improvement in the salt desert shrub range sites. Active preference currently available would be maintained through winter use. Because these fragile range sites are projected to improve slowly, even with winter use, there are no increases in available AUMs projected over the next 20 years. See Table LVST-C for season-of-use by allotment.

Management of the Wild Horse Herd Areas for Alternative C would have significant impacts on livestock management practices in seven allotments. Season-of-use changes in the Snake River geographic reference area would put livestock in conflict with winter wild horse range in the East Reynolds Creek, Reynolds Creek and Hardtrigger Allotments. The change in season-of-use would result in 2,893 AUMs lost to livestock grazing as shown below.

Allotment	Pasture	Acres	AUMs lost	Acres/AUM
Reynolds Creek	1	13,961	1,568	8.8
Hardtrigger	3	7,317	678	10.8
East Reynolds Creek	1	10,223	647	15.8

The Rabbit Creek-Peters Gulch allotment would not be involved in any changes to livestock management practices currently in place or recommended in the pilot riparian program.

Changes in the Sands Basin, Shares Basin, Rats Nest and Elephant Butte allotments would have the following impacts:

Allotment		
Sands Basin	Increase	429 AUMs for livestock
Shares Basin	Decrease	103 AUMs for livestock
Elephant Butte	Increase	30 AUMs for livestock
Rats Nest	Decrease	557 AUMs for livestock

Management of the Wild Horse Herd Area in Alternative C would reduce AUMs for domestic livestock management by a total of 3,094 over the short term. 103 AUMs would be returned to the Shares Basin allotment through range rehabilitation projects over the next 20 years.

Interim management policy for wilderness study areas would restrict range project developments but would not change livestock management practices. No reductions or increases in active preference would result from the interim management policy.

National river designations could result in livestock being removed from designated river channels. This could result in a change in the affected allotment's season-of-use but there are no projected reductions in active preference.

ACEC designations and special management would result in two small areas being fenced to exclude livestock but would not result in any AUMs being lost to livestock grazing. Within the Owyhee River Bighorn Sheep Habitat Area ACEC no livestock water developments would be constructed. See Table ACEC-C for ACEC management actions.

The Stone Cabin Mine would reduce stocking rates on three allotments (Jump Creek, Flint Creek and Silver City) by 112 AUMs for the life of the mine which is projected to be 30 years. Reclamation of all but about 105 acres would result in all but 15 AUMs being returned to active preference.

Conclusion

Most of the resource concerns identified in the allotment summary (Appendix LVST-1) would be resolved in the next 20 years. At the end of 20 years 35% of the uplands in the Owyhee River and Jordan Creek geographic reference areas would remain in an early seral stage and 20% would achieve a late seral stage. About 5% of the lands in the Snake River geographic reference area would improve. Water, riparian and fish objectives would be met on 90% of the stream miles. Livestock use (active preference) would be 89,257 AUMs at the end of 20 years, a 35% decrease from current active preference.

Meeting the Objectives

Objective LVST 1: Resolve issues associated with livestock grazing identified in the allotment summary (Appendix LVST-1). Eliminate identified issues within 20 years.

This objective would generally be met in Alternative C because most of the resource concerns that were identified would be resolved.

LOCATABLE MINERALS

Change Agents

Mineral withdrawals for wilderness areas, corridors along nationally designated rivers, certain recreation management areas and ACECs, riparian and wetland management, water quality, recreation use and land tenure adjustments.

Impact Analysis

Withdrawal actions taken by Congress or the Secretary of the Interior in Alternative C would remove 247,902 acres (about 17%) of public lands in the resource area from location and development under the general mining laws, subject to valid existing rights of pre-existing mining claims. Validity exams would be conducted on these claims to determine whether valid existing rights exist. See Table LOCM-C for specific closures.

Managing lands with high locatable mineral potential primarily for mineral development could result in adverse impacts on riparian areas, water quality, wildlife, cultural and wetland resources through construction of roads, drill pads, mine pits, dumps, heap leach pads and related facilities. Requiring industry to use best management practices during all phases of exploration and mining would minimize damage to other resource values. Mitigating measures would stabilize areas disturbed during mining and prevent excess sediment deposition in wetlands and live streams. Proper design of facilities would reduce or eliminate acid mine drainage and wildlife kills. Cultural resources could be salvaged prior to or during construction to mitigate adverse impacts on historic resources. Performance bonds would be required of all operations conducted under a Plan of Operations as defined by 43 CFR 3809.1-4. Inspections of all exploration operations using mechanized equipment and of all mining operations would occur on a frequent basis to insure an adequate level of mitigation and protection.

Recreation activities would generally be incompatible with mining and exploration operations. Exploration and mine sites may need to be fenced off from nearby established recreations sites such as campgrounds and OHMV trails for safety reasons. New mining access routes could be restricted or located to not interfere with certain recreation activities. New campgrounds and related recreational facilities should be located well away from active mining operations to avoid noise, dust and mine-related safety hazards.

Land tenure adjustments would remove a small amount of land from location under the general mining laws. Mineral reports would be prepared on all lands involved in the sales and exchanges and mining claims on public lands would require a validity examination to determine any valid existing rights.

Conclusion

The overall impact of Alternative C on locatable mineral resources would be favorable to mineral resource development. Reasonable restraints on exploration and development can be imposed to reduce adverse impacts on other resource values.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Physical access to the resource is provided for by the mining laws. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Two main criteria were considered when determining if the objectives were being met: 1) Developmental restrictions - if maximum bonding, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 2) Potential likelihood of development - is the resource present in economically minable amounts.

Objective LOCM 1: Provide opportunities for exploration and development of locatable mineral resources on public lands under the Mining Laws.

The objective would be met in Alternative C.

Availability of Lands for Locatable Mineral Activity Relative to Resource Potential - Alternative C

Management Constraint	High Potential	Moderate Potential	Total
Public Lands			
Open	24,974	1,195,982	1,220,956
Withdrawn	366	247,536	247,902
Split Estate			
Open	2,135	126,001	128,136
Withdrawn	40	5,265	5,305

FLUID MINERALS

Change Agents

Mineral leasing closures and restrictions in wilderness areas, corridors along nationally designated rivers, certain recreational areas and ACECs, for riparian and wetland management, water quality protection, recreation use, and land tenure adjustments.

Impact Analysis

In Alternative C 121,553 acres (8%) of public lands in the resource area would be closed to oil and gas and geothermal leasing. Of this acreage 65,131 acres are currently closed. All but 4,043 acres of split-estate lands (oil and gas) and 2,156 acres (geothermal), where the surface is privately owned, would be open to leasing.

Restriction of fluid mineral operations through seasonal or yearlong no surface occupancy would impact 622,972 acres (42%) of public lands in the resource area. Seasonal restrictions on operations would not seriously impede any future leasing activity and should provide adequate protection to wildlife resources. Nearly 213,000 acres are prescribed for yearlong no surface occupancy restrictions, which could have an adverse impact on leasing since there would be no practical way to explore or develop some of these lands. See Table FLUM-C for specific closures and restrictions.

Modifications to any future exploration or drilling program would usually be made to protect riparian and wetland areas and water quality without seriously impeding fluid mineral development. Protection of these resources would not likely have any serious impact on fluid mineral operations in the foreseeable future.

Recreation activities would generally be incompatible with fluid mineral exploration and development. Noise, dust and heavy machinery associated with drilling operations would adversely impact recreational opportunities on the public lands. Future drilling sites may have to be fenced off from nearby established recreation areas, such as campgrounds, OHV parks or trails for safety purposes. Access routes into fluid mineral development sites may have to be restricted or relocated to not interfere with certain recreation activities. Established recreation sites may require a buffer of public lands where development activities would be restricted to reduce disturbance to recreationists.

Land tenure adjustments would cause some minor shifts in the amount of land available for fluid mineral leasing.

Conclusion

The outlook for an active fluid minerals leasing and exploration program is poor. There would always be some interest in fluid minerals in southwest Idaho, particularly in low-temperature geothermal resources, but until energy prices are much higher then present or until new technology becomes available, no leasing activity is likely to occur. Large scale no surface occupancy restrictions may have a small adverse impact on any leasing interest in the southern part of the resource area. Overall, the impact of Alternative C on fluid minerals development is moderately favorable.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

Objective FLUM 1: Provide opportunities for exploration and development of oil and gas and geothermal resources on public lands by imposing the least restrictive leasing categories necessary to protect other resources.

The objective would be met in Alternative C.

Availability of Lands for Fluid Mineral (Oil and Gas) Activity Relative to Resource Potential - Alternative C

Management Constraint	Low Potential	Zero Potential	Total
Public Lands			
Open	424,083	300,250	724,333
Open-Seasonal Occupancy	289,680	120,320	410,000
Open-No Surface Occupancy	15,296	197,676	212,972
Closed	112,479	9,074	121,553
Split Estate			
Open	65,083	64,315	129,398
Closed	2,926	1,117	4,043

Availability of Lands for Fluid Mineral (Geothermal) Activity Relative to Resource Potential - Alternative C

Management Constraint	High Potential	Low Potential	Total
Public Lands			
Open	56,210	668,123	724,333
Open-Seasonal Occupancy	12,420	387,580	410,000
Open-No Surface Occupancy	34,505	178,467	212,972
Closed	57,439	34,595	121,553
Split Estate			
Open	410	130,875	131,285
Closed	1,039	1,117	2,156

MINERAL MATERIALS

Change Agents

Population growth; mineral withdrawals for certain wildlife areas, recreation sites, natural areas and ACECs, riparian and wetland management, recreation use and land tenure adjustments.

Impact Analysis

In Alternative C, 3,470 acres (8%) of public lands classified as having high potential for sand and gravel would be closed to disposal. This small area is not likely to seriously impede development of the area's mineral material resources. See Table MMAT-C for specific closures.

Protecting riparian areas and wetlands would require some restrictions on the development of mineral material sites, particularly along stream channels. Future material sites would likely be located along bench and terrace gravel deposits and alluvial fans away from any live water. Access roads into material sites may need to be relocated or engineered specifically to protect wetlands and riparian areas.

Recreation activities would generally be incompatible with mineral material development, at least during the extraction phase. Future material sources located near existing recreation sites may need to be fenced and gated for safety reasons. Access routes into material sites could be restricted or moved as to not interfere with certain recreation activity. Future campgrounds and related facilities should be located away from active material sites to avoid noise, dust and mine-related safety hazards.

Land tenure adjustments would remove a small amount of public land from availability as material sources.

Conclusion

The overall impact of Alternative C on mineral materials management in the Owyhee Resource Area is generally favorable for the development of these resources.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

Objective MMAT 1: Provide opportunities for use of common variety minerals obtained from the public lands.

The objective would be met in Alternative C.

Availability of Lands for Mineral Materials Activity Relative to Resource Potential - Alternative C

Management Constraint	High Potential	Moderate Potential	Total
Public Lands			
Open	39,830	1,196,465	1,236,295
Closed	3,470	229,093	232,563
Split Estate			
Open	1,370	131,029	132,399
Closed	20	1,022	1,042

RECREATION

Change Agents

Recreation use, OHMV designations, special designations, recreation facilities, fencing, water developments, acquisition, vegetation treatments, locatable and fluid mineral activities and utility corridors.

Impact Analysis

Changes in the Availability of Recreation Opportunity Settings

Alternative C would result in some shift in the amount of acreage available in each of recreational opportunity spectrum (ROS) classifications. ROS classifications are an expression of the type of experiences one can achieve while in an area with various social, physical, and managerial settings. See Table RECT-3 for details on each of the settings. Semi-primitive motorized settings would remain the predominate opportunity class covering about 44% of the resource area. In the northern portion of the resource area (the Snake River and Jordan Creek geographic reference areas), roaded natural, rural, and urban settings would accompany semi-primitive motorized settings: Some semi-primitive motorized settings would exist in remote mountainous areas. To the south (Owyhee River geographic reference area), semi-primitive motorized settings would continue to isolate numerous pockets of semi-primitive nonmotorized settings across the open plateau areas, as well as define a concentration of primitive and semi-primitive nonmotorized settings encompassing the Owyhee Canyonlands and the North Fork Owyhee River Backcountry SRMAs. In the south, roaded natural settings with some rural acreage would only be associated with the Owyhee Uplands National Back Country Byway and several connecting roadways.

ROS Classifications Availability In Alternative C (Map RECT-1)

ROS Class	Total Acres in 1991	Percent of Resource Area in 1991	Percent of Resource Area in 2015
Primitive	234,940	13%	10%
Semi-Primitive Nonmotorized	386,150	22%	23%
Semi-Primitive Motorized	794,010	44%4	4%
Roaded Natural	177,080	10%	12%
Rural/Urban	187,225	11%	11%
Total*	1,779,405	100%	100%

* All lands: BLM, State and private.

Management actions in Alternative C are projected to cause changes in ROS class acreages primarily within primitive and semi-primitive motorized and nonmotorized settings. Changes in classification could result from, 1) off-highway motorized vehicle activity allowed under various OHMV designations; 2) increased administrative access to new range improvements; 3) vegetation treatments (juniper harvesting); or 4) development of new roads or upgrading existing vehicle routes for mineral exploration and development. Administrative routes to new range improvements are projected to be unconstructed jeep trails, potentially reducing the amount of primitive and semi-primitive nonmotorized settings available. Mineral development, such as that in the vicinity of Silver City, would change semi-primitive motorized settings to roaded natural settings with the construction of maintained gravel roadways. Recreational development would also contribute somewhat to increased roaded natural settings.

While wilderness study lands remain under the BLM Wilderness Interim Management Policy (IMP), no change in the availability of primitive or semi-primitive nonmotorized settings in wilderness study areas would occur within in the Owyhee River area. Should suitability recommendations as presented in the Owyhee RMP be accepted by Congress, 123,800 acres of public lands would be released from the IMP and made available for other multiple uses, including vegetation treatments. These projects could substantially affect the naturalness of the Juniper Mountain area, converting primitive settings to mostly semi-primitive motorized settings. In the North Fork Owyhee River Backcountry SRMA/WSA, vegetation treatments could cause some reduction in naturalness, resulting in a shift toward semi-primitive nonmotorized settings. The semi-primitive nonmotorized settings of the plateau lands in the Owyhee Canyonlands region (including nonsuitable WSA lands) could allow burn and seed projects that would effect the quality of semi-primitive nonmotorized experiences by reducing naturalness, yet these projects would probably not cause a change in ROS class. Some acreage of primitive settings in non-WSA areas around upper Nickel Creek would also shift to semi-primitive motorized or nonmotorized settings as a result of woodland treatment projects. The degree of change in available ROS settings would be the same as that projected for Alternative A.

Off-highway motorized vehicle (OHMV) designations prescribed in Alternative C would restrict public use on all public lands across the resource area. Restrictions would "Close" 244,367 acres to OHMV use and restrict ("Limit") use on 1,075,284 acres, the predominate restrictions being the Limited - Level 4 and 5 OHMV designations. No public lands would be "Open" to cross-country travel of motorized vehicles. See Map RECT-1C.

Alternative C would result in substantial changes in how the resource area could be used for off-highway motorized vehicle recreation. These changes are detailed in the discussion of impacts on the quality of recreational experiences located further in this recreation analysis.

OHMV Designations for Alternative C (Map RECT-1C)

Designation	Acres
Open	0
Limited - Level 1	101,612
Limited - Level 2	0
Limited - Level 3	0
Limited - Level 4	313,999
Limited - Level 4-IMP	0
Limited - Level 5	432,663
Limited - Level 6	227,010
Limited - Level 7	0
Closed	244,367
Total	1,319,651

Impacts on Recreational Opportunities in Special Recreation Designations:

Alternative C prescribes intensive management of nine (9) special recreation management area (SRMA) designations totalling 348,830 acres as shown below. The Silver City SRMA would be eliminated, the Jump Creek SRMA would be reduced in size and the Owyhee Front, Deep Creek and North Fork Owyhee SRMA would increase in size from the "additions" listed in the table shown below. Alternative C also recommends congressional designation of 163 miles along the North Fork, East Fork and South Fork Owyhee River, and Deep-Nickel-Current Creek as national wild/scenic/recreational rivers within the Owyhee Canyonlands, North Fork Canyon, North Fork Owyhee Backcountry, and Deep Creek SRMAs.

Recreation Management Area Designations for Alternative C (Map RECT-2C)

Recreation Management Area Name	Acres	
Owyhee ERMA	984,551	
Blackstock SRMA	6,149	
Jump Creek SRMA	465	
Jump Creek Addition SRMA	0	
North Fork Owyhee SRMA	56,602	
North Fork Addition SRMA	*209	
Owyhee Front SRMA	180,940	
Fossil Creek Addition SRMA	**23,524	
Squaw Creek Addition SRMA	**19,470	
Owyhee Canyonlands SRMA	36,841	(5,627 additional in BRA)
Oregon Trail SRMA	7,305	
Snake River Birds of Prey SRMA	7,766	
Guffey Butte Addition SRMA	***2,635	
Deep Creek SRMA	5,882	(5,918 additional in BRA)
Current Creek Addition SRMA	*567	
North Fork Canyon SRMA	475	
Total SRMAs for Owyhee Resource Area	348,830	
Total in Owyhee Resource Area	1,333,381	
Total SRMAs for Bruneau Resource Area		11,545

* SRMA additions only because of National Wild, Scenic, or Recreational River proposals.
** Addition to Owyhee Front SRMA for OHMV management.
*** Addition to Snake River Birds of Prey SRMA for support of Celebration Park proposal.

Suitable River Segments for Alternative C (Map WSR-1)

Seg.#	Segment Name	Miles	Classification
S1a,c	South Fork Owyhee	28	Wild/Recreational
S3a	East Fork Owyhee	66	Wild
S4a-c	Deep Creek	32	Wild/Scenic
S7a	Nickel Creek	8	Wild
S8a	Current Creek	9	Wild/Scenic
C5a	Lower North Fork Owyhee	4	Scenic
C5b	Upper North Fork Owyhee	16	Wild
Total		163	

Special designations would focus attention on long-term protection of recreational opportunities dependent on predominately primitive and semi-primitive motorized and nonmotorized settings, and in some areas roaded natural settings. Management actions prescribed in SRMAs are tailored to protect existing ROS classifications with emphasis on minimizing changes in the current level of natural conditions or by improving public access to allow the enjoyment of the natural resource base by a larger sector of the general public. Management actions in Alternative C would provide more restrictive "Limited" OHMV designations in heavy OHMV use areas such as the Owyhee Front SRMA to protect natural resources, reducing semi-primitive motorized opportunities through trail closures, yet would result in enhanced nonmotorized recreation access opportunities. Nonmotorized opportunities would be further enhanced in areas currently receiving little recreation use (North Fork Owyhee Backcountry and North Fork Canyon SRMAs) through trail developments where such use would not be detrimental to natural resources. Alternative C would also ensure maintenance of existing roaded natural experiences associated with recreation sites as well as enhancing these experiences through development of new sites in the North Fork Backcountry, Owyhee Canyonlands and Snake River BOP SRMAs, and along the Owyhee Uplands National Back Country Byway. New site work would include reconstruction of the Castlehead Springs and Trout Springs Hunter Camps in the extensive recreation management area.

National river designation for 163 miles of river canyons would include withdrawal of the affected lands from mineral entry, precluding any potential irretrievable loss of outstanding primitive recreational values considered to be of national significance.

Impacts on the Quality of Recreational Experiences

Management actions prescribed in Alternative C would result in a change in the availability of the various recreational opportunity settings. Management actions would also affect the overall quality of recreational experiences that would be obtainable in the resource area.

Primitive settings require a sense of remoteness, a vastness (size), and little or no evidence of human use. Currently, recreational users seek out the canyonlands and some adjoining plateau and rock outcrop landscapes of the Owyhee River system for primitive recreation experiences. In Alternative C, these lands are prescribed for mostly Class I and II visual resource management (VRM) where management action would be allowed if they would only slightly affect the naturalness or scenic quality of the landscape. Recreation management actions identified in Alternative C affecting VRM Class I and II areas include short portage trails around two rapids on the East Fork Owyhee River (Owyhee Canyonlands SRMA), and the foot/equestrian trail systems within the North Fork Owyhee River watershed (North Fork Canyon and North Fork Owyhee Backcountry SRMAs: see Map RECT-3c). Projected increases in recreation use on the East Fork would not be enough to cause substantial adverse effects to naturalness, aesthetic qualities or solitude opportunities in the river canyon, except at isolated areas of concentrated use such as the rapid portages. Increased levels of recreation use are projected to produce unsightly, random, unstable trailings around the rapids. Construction of one good maintained trail would prevent this. The foot trails along the North Fork would be built so as not to adversely affect naturalness or scenic values for which primitive experiences are dependent. There are currently no maintained trails in the resource area except the short (one-eighth mile long) Jump Creek Trail. By developing foot access into the North Fork system there would be a greater diversity in the type of nonmotorized experiences available in primitive and semi-primitive natural settings.

Other recreation management actions pertaining to development and maintenance of recreation facilities (campgrounds, picnic areas, trailheads and foot/equestrian trails) in semi-primitive motorized and roaded natural settings would provide increased choices in access opportunities without substantially affecting the natural or aesthetic character of the landscape, but would contribute to increased recreation use. The affected semi-primitive and roaded natural settings would generally be managed as VRM Class II and III areas. Some modifications of the natural landscape would be permissible in these ROS and VRM classifications, particularly if they enhance recreation opportunities. Trail and campground/picnic area developments, such as in the North Fork (Map RECT-3c), Guffey Butte (Map RECT-4C) and Jump Creek areas, would improve nonmotorized access into rugged canyon areas giving access to many who would otherwise not have an opportunity to experience these settings. Such facilities tend to promote localized increases or concentrations of recreation use at a rate greater than at undeveloped sites, demanding a greater managerial presence.

Projected increases in visitor use in the resource area would not adversely affect the quality of recreational experiences through the year 2015 by causing a sense of crowding or by contributing to deterioration of the natural landscape, except in the Owyhee Front. Rapidly increasing use of the Owyhee Front would put hamper BLM's ability to reduce or prevent resource deterioration of undeveloped sites on an overall basis. Localized problems associated with vandalism and unauthorized OHMV use would likely remain the principal cause of resource deterioration and facility damage at already developed sites such as Jump Creek and the off-highway vehicle (OHV) trailheads. Alternative C prescribes additional developments to mitigate resource damage as well as increase recreational opportunities along the Owyhee Front. Of particular importance, Alternative C provides specific direction in the development of equestrian trailheads and trail systems in the Owyhee Front (outside of wild horse HMAs) and Snake River BOP SRMAs to accommodate increased interest in horseback activities. These trail systems could also be used for hiking. In recent years there has been a dramatic increase in equestrian use for competitive events, casual use and commercial outfitting. To date, BLM has only been able to meet the need for facilities associated with motorized (OHMV) recreation use along the Owyhee Front.

OHMV designations are intended, in part, to protect the existing recreational settings by preserving the natural and aesthetic character of select landscapes in the face of ever increasing numbers of recreation users. The extensive (973,672 acres) Limited - Level 4 through Limited - Level 6 OHMV designations prescribed in Alternative C would generally help preserve the natural resource base of the resource area. However, the designations would greatly reduce motorized and nonmotorized recreation opportunities and experiences as follows:

> In the Owyhee Front, the shift from the existing Limited - Level 1 to Level 5 and 6 OHMV management would substantially reduce existing OHMV activities on about 32,000 acres which center around the use of motorcycle/ATV trails and sand washes. There are about 90 miles of motorcycle/ATV trails and sand washes that would no longer be available for public use within the wild horse herd management areas (HMAs) of the Owyhee Front SRMA. The Kane Spring pipeline road complex (about 18 miles) would also have to be closed to public recreational use to effectively manage the HMA. The affected lands would include all lands west of Reynolds Creek and the middle to upper elevations of the Rabbit Creek area. Also, the 24,885 acres of the Fossil Creek Addition area, north of Highway 78, would no longer have about 50 miles of sand washes and trails available for OHMV use.

The Limited - Level 4 designation for the Owyhee River GRA would maintain existing opportunities on dirt roads and jeep trails but would eliminate further use of single-track OHMV trails in the region. The designation would not affect springtime vehicle access for boating or backpacking.

The Limited - Level 5 designation imposes a seasonal closure on OHMV use from November 1 to May 31 of each year throughout most of the Jordan Creek GRA and the western portion of the Snake River GRA, except for a limited number of designated routes and for snowmobile use areas in designated upper elevations. This seasonal closure would in effect curtail all types of OHMV-dependent recreation use on much of the northern half of the resource area during a highly favorable use period. Regardless of the recreational activity, all vehicle use would be restricted to only the several maintained dirt, gravel or asphalt roads and a limited number of designated dirt roads and jeep trails in the Level 5 area. This could severely impact (reduce) potential access for winter snowmobiles and those wishing to enjoy springtime hiking or backpacking because unmaintained dirt roads needed for initial access could be unavailable. The OHMV routes remaining open for use during the closure period cannot be determined at this time.

The Limited - Level 6 designation covering much of the rest of the Jordan Creek GRA and some upper elevation areas of the eastern Snake River GRA would enhance OHMV opportunities to some limited extent by allowing yearlong use of designated trail systems designed for motorized or nonmotorized activities. This designation would allow the development of some additional planned and managed single-track trails in the Owyhee Mountains where trails presently do not exist. However, in the Owyhee River GRA and, as discussed above for the lower elevations of the Owyhee Front in the Snake River GRA, the Limited - Level 6 designation would reduce OHMV opportunities by eliminating use on many presently available trails.

How severely impacted a user group is by the "limited" designations depends on how OHMVs are used. To the "trail rider," a motorized vehicle (motorcycle, ATV or 4X4 truck) is principally a mode of transportation to seek out interesting landscapes or recreation experiences (hunting, rock collecting, photography, etc.). This user group is generally content using existing roads and trails and may not enjoy the presence of new vehicle routes that detract from the scenic character of the landscape. Being required to remain on existing and designated vehicle routes and avoiding cross-country travel can be tolerated or even supported if it helps preserve the Owyhee Uplands experience. However, extensive Limited - Level 4 (south half of resource area) and Level 5 (north half of resource area) designations would seriously reduce the potential for a single-track trail system for trail bike riders (the only exception being the Level 6 area). These users would be confined to trail riding opportunities on trails already heavily used by OHMVs in the Owyhee Front area (Limited - Level 1 and Level 6 designations). Some trail riders consider the trail conditions found in the Limited - Level 1 designation area of the Owyhee Front (high levels of use, moguls, etc.) around the OHV trailheads unacceptable for quality riding experiences. Alternative C leaves little opportunity to select alternative riding areas within the resource area. The Level 6 area is not of sufficient size to meet increasing demand for OHMV opportunities, thus eventually displacing users to other areas. A reduction of springtime opportunities in much of the northern part of the resource area would further add to displacement of trail riders. The Owyhee Upland region has been historically used for early spring activities while USFS lands were still closed by snow.

The extensive "Limited" designations would also confine another type of OHMV user group to the 101,612-acre Limited - Level 1 area of the Owyhee Front. This other type of OHMV user group consists of the off-road vehicle ("ORV") user. The "ORV" user often operates the same types of vehicles as the "trail riders", but the performance of the vehicle and the physical agility and strength required to operate it at high speed or on difficult terrain are necessary elements for a satisfactory recreational experience. This user group may tolerate a higher degree of landscape disturbance without it notably affecting the quality of the recreation experience. The Limited - Level 4/5/6 designations would eliminate the ORV experience from most of the resource area. Even the Limited - Level 1 designation would reduce the quality of the ORV experience for some because it generally prohibits unrestricted cross-country travel and hill climbing. The most unrestrictive ORV opportunity in the resource area in Alternative C would be in the small authorized hill climbing area around the Hemingway Butte OHV Trailhead along Reynolds Creek Road.

In the past 10 years, since approval of the Owyhee MFP, numerous range improvement projects to promote improved overall vegetation condition and to protect riparian areas have been constructed, each project usually adding another jeep trail to the recreation setting, and each project reducing the open character of the area. These projects add to the impact of hundreds of other projects already in place prior to 1981. Alternative C would generate additional facility encounters at a level lower than that experienced between 1981 and 1991, with project emphasis being on pasture fences and riparian exclosures. These projects could have a slight to moderate adverse cumulative effect on semi-primitive recreation values, a further loss of the free-roaming experience historically provided on public lands in the resource area. Continued use of cattleguards in pasture division fences would help mitigate the loss of quality in the motorized free-roaming experience, yet recreational users involved in both motorized and nonmotorized activities would find their access to some stream channels and spring sites inhibited by more riparian exclosure fencing.

A number of fence gates define legal divisions between Federal and private properties where the public has no right of passage. Many of these gates can be locked, particularly during the hunting season. Land actions (acquisitions of easements or free title, and exchanges) in Alternative C have the potential for providing some public access where locked gates or signing prevents access to large blocks of public land.

Improved upland and riparian vegetation conditions brought about by changes in intensive grazing systems and the use of riparian exclosures could cushion terrestrial wildlife populations against the natural adverse effects of cyclic climatic conditions and, therefore, possibly result in population increases. In addition, reduced livestock numbers (AUMs) in both riparian and upland areas would make more forage available to wildlife. Increased hunting opportunities for mule deer, antelope and upland game birds would occur. Similar beneficial impacts could also occur to aquatic wildlife (fisheries) populations. Greater diversity, numbers and sizes of fish would be projected for the angler. However, from a recreational perspective there could be a disadvantage to improving riparian conditions. Smaller stream channels returning to good or excellent conditions could become overgrown with dense willow and other shrubby riparian vegetation. This vegetation could even crown over much of a stream to make fishing extremely difficult. In narrow, steep-walled canyon areas, riparian vegetation could extend across the entire canyon bottom, making hiking and camping activities difficult if not impossible. This access situation could be compounded in some areas by riparian fencing. Improving riparian conditions could also affect boating safety along the narrow upper reaches of Deep Creek as more shrubby vegetation overhangs the stream channel.

Alternative C identifies treatment of about 81,400 acres with prescribed burning and woodcuts (or alternative treatment methods on about 8,100 acres) to control the spread of serial juniper or reduce sagebrush competition for grass species on sagebrush-bunchgrass ecological sites. Such actions are intended, in part, to maintain or restore forage and forage/cover ratio requirements for wildlife, contributing to more stable wildlife populations and higher quality hunting opportunities in the area. However, the woodland treatments degrade the scenic quality of the landscape and, in the case of woodcutting, the landscape's natural character. Adverse visual impacts could last as long as 50 years depending on the age class of serial juniper stands being treated (see visual impact analysis). During this period, the quality of recreational experiences would be diminished. Treatments would be concentrated in the Jordan Creek area and northern portion of the Owyhee River area within mostly VRM Class III and IV areas. Numerous treatments in this region through the year 2015 would have a cumulative effect on the quality of recreational experiences of all types within predominately primitive and semi-primitive motorized and nonmotorized settings, and, to some extent, roaded natural settings. Woodland treatments could reduce the amount of acreage in primitive settings within the resource area from 13% to 10% if nonsuitable WSA lands are eventually released from the Wilderness IMP. In semi-primitive motorized settings, reduced natural and scenic character may be tolerated more readily by hunters (a primary user group) in light of the improved game populations projected. Those using roaded natural settings along such roads as the Owyhee Uplands National Back Country Byway would have their recreation experiences most affected because the sightseeing and driving for pleasure activities sought on these roads are highly scenic dependent. In time (25 to 50 years), visual effects of treatments would be largely gone and the quality of the recreation experiences restored or enhanced. Reburns of treated areas are projected to occur on a regular basis. Reburns would have minimal visual impact after several growing season because larger trees would generally not be involved thereby having little long-term effect on recreational experiences. For prescribed burn projects affecting mostly semi-primitive motorized and nonmotorized settings found on sagebrush-grassland ecological sites outside of the woodland region, the burn and possible subsequent drill seeding would not effect visual quality over the long term, but would somewhat reduce naturalness to the detriment of semi-primitive nonmotorized experiences.

Concerns for watershed protection in Alternative C are most likely to have a long-term effect on the availability of OHMV trails in the roaded natural and semi-primitive motorized settings of the Owyhee Front SRMA within the Limited - Level 1 designation. It is projected that a number of miles of trail would eventually have to be closed temporarily or permanently to stabilize or reverse erosion caused by off-highway motorized vehicles. To mitigate the adverse impacts on OHMV recreation from trail closures, new trails could be considered in less sensitive areas.

Alternative C would allow for locatable and fluid mineral exploration and development activities. Most mineral activities affecting recreation use are projected to be concentrated in the Silver City area and, to a lesser amount, the Owyhee Front. Mineral development in the DeLamar and Florida Mountain area would result in a change in ROS class from semi-primitive motorized to roaded natural, as well as reduce the quality of surrounding semi-primitive settings. The nature of open-pit mining, however, would preclude the public from utilizing much of the roaded natural setting for safety reasons during the time of mine operation. The quality of semi-primitive recreation experiences on lands immediately surrounding the mine operation would be reduced by visual and audio intrusions. For more detail on the DeLamar and Florida Mountain mineral activities, refer to the Stone Cabin Mine EIS. Additional mine sites are projected to be developed in the Silver City area resulting in a cumulative effect on recreational experiences ranging from exclusion, restricted access, and degradation of natural and scenic quality. Other mineral activities, such as the exploration for oil resources, could also cause new roaded natural corridors and cause localized reductions in the quality of recreational experiences in the semi-primitive motorized settings of the Owyhee Front and primitive to semi-primitive nonmotorized settings in the Owyhee Canyonlands region.

To protect the high quality of primitive recreational experiences in suitable wild/recreational river canyons from the effects of potential mineral exploration and development, Alternative C recommends withdrawal of affected lands from mineral entry. Withdrawals would affect the canyon systems of the North Fork, East Fork and South Fork Owyhee Rivers, and Deep-Current Creek. The remaining eligible river segments in the resource area would not receive withdrawal protection.

Should Congress not accept the BLM's national river or wilderness recommendations, the absence of such designations for lands adjoining the Paiute (El Paso) Gas Pipeline crossing of the East Fork Owyhee River could result in development of a high voltage powerline utility corridor in the Owyhee Canyonlands region. Such development would result in new roaded corridors and would eliminate or severely diminish primitive and semi-primitive nonmotorized recreation opportunities on surrounding canyon and plateau lands of the WSA complex. Development would also reduce the quality of semi-primitive motorized recreation opportunities on surrounding plateau lands (see the Owyhee Canyonlands Wilderness EIS for details).

Conclusion

Alternative C would provide for intensive management of recreation resources and recreation use on 348,830 acres in nine (9) special recreation management areas (SRMAs). Included in this acreage would be the recommendation for congressional designation of 163 miles of river canyon along the North Fork, East Fork and South Fork Owyhee Rivers, and Deep-Current Creek as national wild, scenic and recreational rivers to afford long-term protection to the rivers' nationally significance primitive recreation values.

Alternative C would significantly reduce OHMV opportunities in the resource area overall. The restrictive OHMV designations would eliminate ORV-type experiences from all areas other than the 101,612 acre Limited - Level 1 area found on the Owyhee Front. Only in this area could motorcycle/ATV trails and sand washes be used. Elsewhere, all OHMV use would be restricted to existing or designated roads and jeep trails (Limited - Level 4/5) and to some designated single-track trails for motorcycles/ATVs (Limited - Level 6); with the canyonlands of the Owyhee River system being "Closed" to motor vehicle use except at established road crossings. The Limited - Level 5 designation covering much of the northern half of the resource area (outside the Owyhee Front) would also preclude OHMV use until after May 31 of each year, thus eliminating or reducing recreation opportunities away from maintained roadways and a limited number of designated routes during the favored use period.

Much of the resource area (44%) would remain in semi-primitive settings. In VRM Class III/IV areas, woodland treatment projects would moderately to severely reduce the quality of semi-primitive recreation experiences until affected lands have recovered (25 to 50 years). Over the long term, treatment projects could improve the quality of recreational experiences, especially for hunters because of increased or stabilized game populations. Continued development of fences, however, is projected to contribute to a slight to moderate long-term decline in the quality of the free-roaming recreational experience in semi-primitive settings.

Within VRM Class III and IV areas, and eventually in VRM Class II-IMP areas, recreation opportunities would shift from primitive to semi-primitive motorized or nonmotorized settings because of woodland treatment projects. Burn and seed projects on sagebrush plateau lands could reduce the quality of semi-primitive nonmotorized experiences. There is also the potential for reductions in the quality of primitive and semi-primitive recreation opportunities from energy exploration and development should wilderness or wild river designation not occur along the East Fork Owyhee River.

VRM Class I and II areas prescribed in Alternative C would generally protect existing recreation settings and experiences except in areas of open-pit mining (Silver City area). Mineral activities would severely reduce the quality of semi-primitive recreation experiences and result in the shift of some semi-primitive motorized recreation settings to roaded natural settings. Prescribed recreation facilities and range improvements (including limited vegetation treatments) would not seriously affect primitive and semi-primitive nonmotorized recreation settings or experiences in VRM Class II areas.

Meeting the Objectives

Objective RECT 1: Provide for off-highway motorized vehicle (OHMV) use on public lands while protecting sensitive resource values.

Off-highway motorized vehicle designations in Alternative C would fall well short of meeting the objective of providing for OHMV opportunities within the resource area. The designations would severely restrict or eliminate the types of opportunities available in the most heavily used recreation areas in the northern half of the resource area (single-track trail riding, off-trail use, springtime use) in exchange for increasing the level of protection afforded to sensitive resource values.

Objective RECT 2: Provide special management attention to areas of public land with identified special recreational, scenic, and cultural values where current and projected recreational demand warrants intensive management.

The special recreation management areas identified in Alternative C would contain all lands needing special attention because of intensive recreation use and conflicts with sensitive resource values in predominately roaded natural and semi-primitive motorized settings, and all lands needing protection of nationally significant recreation and scenic values associated with primitive settings.

Objective RECT 3: Determine the suitability of all eligible rivers and streams for inclusion in the National Wild and Scenic Rivers System.

Alternative C would provide permanent protection on 74% of the eligible river miles in the resource area under a suitable recommendation for the largest and most nationally significant of the canyonlands associated with the entire Owyhee River drainage system within the resource area. The remaining river segments in the resource area considered to be nonsuitable in Alternative C are mostly small tributary streams to those found suitable, some stream lengths of which are contained in the recommended legal descriptions for associated suitable segments.

Objective RECT 4: Provide for high quality recreational opportunities and experiences at developed and undeveloped recreation sites by maintaining existing amenities (roaded natural, urban and semi-primitive motorized settings) and by providing new recreation sites for the public's enjoyment, with emphasis on roaded natural and semi-primitive motorized settings.

Alternative C would fully meet the objective by providing for continued developed recreational experiences at existing sites and by establishing direction in the development of new recreation sites throughout the resource area, particularly in the Snake River GRA where recreation use is projected to be most significant during the next 20 years.

Objective RECT 5: Develop a trail system that provides a range of motorized and nonmotorized recreation opportunities for the public's enjoyment of primitive, semi-primitive nonmotorized, semi-primitive motorized and roaded natural settings.

Actions identified in Alternative C would meet this objective because there would be adequate attention given to 1) meeting the need for more recreation facility (trail) development in the Snake River GRA to deal with increasing recreation demand for more diverse recreation opportunities, and 2) meeting the need for more public information on more diverse recreation opportunities.

Objective RECT 6: Pursue increased public access opportunities in motorized and nonmotorized settings through the acquisition of fee titles or recreational easements (willing landowners only).

Alternative C would fully meet this objective.

Objective RECT 7: Retain at least 10% of the Owyhee Resource Area in a primitive recreational opportunity (ROS) setting.

Alternative C would meet this objective by providing long-term protection to existing primitive settings found on 10% of the resource area.

WILDERNESS

Change Agents

Vegetation treatments, fencing, water developments, OHMV activities, recreation facilities, utility corridors, and locatable and fluid mineral activities.

Impact Analysis

The 294,740 acres of wilderness study areas (WSAs) in the resource area (see Map WNES-1) are required to be managed under BLM's Wilderness Management Policy (IMP) to protect their wilderness characteristics; naturalness, and outstanding opportunities for primitive recreation or solitude. The IMP prohibits taking any action considered to adversely affect a WSA's suitability for congressional wilderness designation. An action is considered an impairment of wilderness suitability if: 1) it individually, or when considered collectively with other existing human imprints, makes the imprints of man substantially noticeable to a casual observer in the WSA as a whole, and/or 2) the action reduces the value of the WSA for wilderness as compared to other land uses. No actions have been identified in Alternative C which would impair wilderness values on WSA lands.

In Alternative C, as with all other alternatives, the recommendation for congressional designation of 195,980 acres of public lands as wilderness is being carried forward. Within this acreage are 3,890 acres of non-WSA, Section 202 FLPMA study lands which have also been recommended for wilderness designation. Unlike WSA lands, Section 202 study lands are to be protected only from unnecessary and undue degradation under authority of Section 302 of FLPMA. No actions which would cause unnecessary or undue degradation have been identified for Section 202 lands in Alternative C.

Alternative C provides direction for management of WSAs through the identification of various visual resource management (VRM) classifications and off-highway motorized vehicle (OHMV) designations. Alternative C would classify 71,313 acres as VRM Class I, 242,088 acres as VRM Class II, and 123,464 acres as VRM Class II-IMP (see Map VISL-C). It would also designate all WSA lands as "Closed" to OHMV use or as Limited - Level 4. These classifications and designations identify the level of development and uses allowed under the BLM Wilderness IMP for WSA and what would be allowed if nonsuitable lands are released from the IMP by Congress.

The VRM Class II and Class II-IMP areas would be the primary classification for WSA lands in Alternative C and are intended to retain the natural character of the landscape with the imprints of man substantially unnoticeable to the casual observer, the general principal guiding the IMP. Upon congressional release from the IMP, affected VRM Class II-IMP lands would become VRM Class IV areas. In this visual classification a broad range of range projects (livestock, wildlife and watershed) could occur. Rangeland management actions would occur in the nonsuitable Juniper Mountain WSAs in Alternative C. Alternative C identifies clear-cutting seral juniper woodlands in order to restore grass, forb and shrub species to sagebrush-grassland ecological sites. New fences and spring developments are also identified. Stream channel stabilization projects, which involve lining streambanks with juniper trees, could also occur. New roads and jeep trails would be generated as a result of woodland cutting projects. The OHMV Limited - Level 4 designation prescribes retaining vehicle use on existing roads and jeep trails, yet juniper cutting activities in the absence of the IMP would generate some new routes that could remain open for public use after the completion of the woodcuts. Overall, at least 12,900 acres of public land in the Juniper Mountain WSA complex would have substantial losses of wilderness characteristics. Naturalness and outstanding opportunities for solitude and primitive recreation would all be affected. Details concerning the loss of wilderness characteristics in the Juniper Mountain WSA complex are discussed in the No Wilderness Alternative presented in the Owyhee Wilderness Plan Amendment EIS.

Impacts on wilderness characteristics similar to those of the Juniper Mountain WSA complex, but less extensive and severe, are projected to occur in the juniper woodland areas of the North Fork Owyhee River WSA. The North Fork WSA would retain its special recreation management area (SRMA) designation on its nonsuitable areas, as well as its suitable areas should Congress not accept the BLM's wilderness recommendations. The SRMA would be managed under VRM Class I and II standards and a "Closed" OHMV designation, however, several designated routes would be allowed to remain in the SRMA. Consequently, woodland treatment projects (with accompanying access roads and trails), fencelines, and watershed stabilization projects in Class II areas are projected to be the minimal necessary to meet management objectives for these resources without notably altering the natural character of the landscape. The level of potential development is projected to be greater than would occur in the VRM Class I areas where virtually no rangeland development could occur. With VRM Class II areas, OHMV activity would be restricted to existing roads and jeep trails. Within the VRM Class I areas there are no roads or motorized trails. Alternative C would allow development of new recreational access roads to trailheads within nonsuitable (VRM Class II) areas found on the southern periphery of the North Fork WSA. The trailheads would service a recreational foot and equestrian trail system that would affect both suitable and nonsuitable lands in VRM Class I and II (see Map RECT-3C). The IMP permits trail development to enhance opportunities to experience primitive recreation activities within WSAs. Such a trail system is possible in VRM Class I, but the trail would be built to a lower standard (narrower, steeper grades and fewer bridged stream crossings) than would occur in VRM Class II in order to minimize its visual presence on the landscape. Overall, there are at least 10,350 acres of the North Fork WSA which would have slight to moderate losses of wilderness characteristic in Alternative C.

The Owyhee River ACEC/SRMA lands contained in the Owyhee Canyonlands WSA complex would also be managed under VRM Class I/II and a "Closed" OHMV designation in the absence of wilderness designation. On these lands there would be no BLM initiated actions in Alternative C which would adversely affect wilderness characteristics (see Owyhee Canyonlands Wilderness EIS). Launch site developments, road maintenance to existing standards, and portage trail developments (East Fork Owyhee River) would help stabilize fragile sites that are currently concentrating recreational use. The developments would not attract additional recreational use since access roads would be retained at their current level of construction, a condition which tends to discourage use by the general public (driving for pleasure and sightseeing).

The VRM Class II-IMP and "Closed" OHMV designations would also pertain to peripheral plateau lands of the Owyhee Canyonlands WSA complex. For these affected WSA lands, the change in VRM management following IMP release is generally not projected to result in activities that would substantially compromise existing wilderness characteristics. OHMV management would remain the same after IMP release. If reductions or losses of wilderness characteristics occur, they would likely result from mechanical drill seeding of rangelands to rehabilitate lands effected by wildfire. Mechanical seeding leaves a cultivated appearance on the landscape that could exist for many years. Details concerning impacts on wilderness characteristics in the Owyhee Canyonlands WSA complex are discussed in the various alternatives presented in the Owyhee Canyonlands Wilderness EIS. From development scenarios provided by the Owyhee Canyonlands Wilderness EIS, it has been estimated that as much as 32,190 acres of the Owyhee Canyonlands WSA complex in Idaho could eventually have diminished wilderness characteristics (naturalness) as a result of seeding projects over the long term.

There are two additional types of actions which could occur in Alternative C in the absence of wilderness designation: utility corridor development and locatable and fluid mineral activities. There is a high probability for establishment and development of an enlarged and less restrictive utility corridor along the Paiute (El Paso) Gas Pipeline which runs north-south through the Owyhee Canyonlands WSA complex just west of the Duck Valley Indian Reservation. The existing corridor is one-mile wide and use is currently restricted to underground developments only in the vicinity of the WSAs. The corridor is one of several routes which has been identified for future planning of high voltage powerlines to service interstate electrical needs of the western United States. Development of a corridor, in the absence of wilderness or wild river designation for the East Fork Owyhee River, would severely reduce or eliminate wilderness characteristics on 10,330 to 10,760 acres of WSA plateau and canyonlands adjoining the Paiute (El Paso) Gas Pipeline (WSA ID-16-49D and WSA ID-16-52). Refer to the various alternatives presented in the Owyhee Canyonlands Wilderness EIS for details on the El Paso utility corridor

There is potential for locatable and fluid mineral exploration and development in the Owyhee Canyonlands WSA complex. Though currently identified as having low mineral development potential, there is a low to moderate possibility of some level of exploration activity associated with geological structures within or immediately adjacent to the river canyons. Despite the "unnecessary and undue" standards required by the 3809 regulations, any customary activity of an exploratory nature into the canyon walls of the Owyhee River system could cause irretrievable and irreversible impacts on wilderness characteristics (naturalness and outstanding opportunities for primitive recreation) on at least a localized basis in the wilderness complex. The disturbance would potentially be visible to river floaters who use the upper Owyhee River system in the three-State area of Oregon, Idaho and Nevada. The potential for extreme degradation of naturalness in steep topographic areas from "exploration" activities has been described for the exploration activities on Florida Mountain near Silver City (see visual impact analysis). For details concerning potential impacts from mineral activity along the Owyhee River, refer to the alternatives presented in the Owyhee Canyonlands Wilderness EIS (mineral scenarios were only developed for Oregon WSA lands in that EIS because of the favorability of mineral development). As with utility corridor development, the potential for mineral development in the absence of wilderness designation is subject, in part, to congressional action on wild river suitability recommendations for the North Fork, South Fork and East Fork Owyhee Rivers and Deep-Current Creek. There is also potential for exploration and potential development of oil and gas reserves on peripheral plateau lands of the Owyhee Canyonlands WSA complex. These are the same lands which could be affected by wildfire rehabilitation seeding projects. According to scenarios developed for the Owyhee Canyonlands Wilderness EIS, as much as 5,100 acres of Idaho BLM lands could be at least temporarily affected by energy exploration.

Conclusion

Implementation of Alternative C would ensure protection on WSA lands while they remain under the BLM Wilderness IMP. In the event of non-wilderness designation, there is a high probability that as much as 55,440 acres of the WSA lands in the resource area would experience a moderate to substantial lost of wilderness characteristics due primarily to vegetation treatment projects. The loss could be further increased by at least 10,330 acres in the absence of alternative national wild river designations within the Owyhee River WSA complex due to utility corridor development.

Meeting the Objectives

Objective WNES 1: Manage wilderness study areas so as not to impair their suitability for potential designation as wilderness.

In compliance with BLM's Wilderness IMP Policy, Alternative C would ensure long-term protection of wilderness characteristics on Section 603 wilderness study lands and would not adversely affect wilderness values on Section 202 study lands.

Objective WNES 2: Following any enabling legislation, manage designated wilderness areas to ensure an enduring wilderness resource.

Alternative C is applicable to the Owyhee RMP only after congressional wilderness designation of select Section 603 and 202 study lands in the resource area. Any activity plan required because of wilderness designation would have protection of wilderness values as its primary objective.

VISUAL RESOURCES

Change Agents

Vegetation treatments, fencing, water developments, watershed stabilization projects, wildlife guzzlers, recreation facilities, OHMV activities, locatable and fluid mineral activities and utility corridors.

Impact Analysis

Alternative C prescribes managing all public lands in the resource area under one of five visual resource management (VRM) classes ranging from VRM Class I to Class IV.

VRM Class	Acres
VRM Class I:	71,313
VRM Class II:	242,088
VRM Class II-IMP:	123,464
VRM Class III:	144,748
VRM Class IV:	738,038

VRM Class I would be the most restrictive class in Alternative C where the intent is to preserve the natural character of the landscape. Class IV would allow substantial changes to the characteristic landscape. These classifications are defined in detail in Appendix VISL-1. Wilderness study areas (WSAs) are to be managed under the BLM Wilderness Management Policy (IMP) to preserve their wilderness characteristics, including naturalness. Under the IMP, WSA lands are managed so that the imprints of man remain substantially unnoticeable in any given WSA as a whole. This is the intent of VRM Class II management whether a WSA is present or not. Class II allows for maintenance of existing facilities and, as of September 30, 1990 (Idaho), prohibits additional surface disturbing projects within WSAs. The IMP encourages preservation of WSAs, or portions of WSAs, where pristine conditions exist. This is the intent of VRM Class I lands which are generally found at the core of the WSAs and predominantly encompass canyonlands topography. The association between IMP for wilderness resources and VRM Class objectives is discussed in detail in the wilderness impact analysis. In summary, impacts on the scenic quality of WSA lands would not be impacted in Alternative C as long as the IMP stays in effect. If WSA lands are released from the IMP, the visual quality of some WSA lands would be affected in the same manner as projected below for the various project developments identified in Alternative C for VRM Class I through IV areas.

Visual impacts would be most extensive from vegetation treatments in VRM Class II, III and IV areas. Such treatments would not be allowed in VRM Class I areas in Alternative C. The degree and longevity of visual impacts from such projects is dependent upon the type of vegetative community involved.

Vegetation Treatments

In the juniper woodland communities (predominantly in the Jordan Creek and northern half of the Owyhee River geographic reference areas), visual impacts would occur from prescribed fires in seral juniper stands and from harvesting seral stands for fuelwood. Alternative C prescribes burning up to 64,400 acres total over the next 20 years, about 3,200 acres per year. About one-half of this (30,300 acres) would be within the juniper woodland communities. In addition, commercial harvesting of juniper fuelwood is approaching 600 acres per year, and could approach 1,000 acres per year by the year 2000. Cutting and burning could affect many of the fuelwood harvesting areas.

Within harvest areas, during the cutting period and for a number of years afterwards, the scenic quality of affected clear-cuts would be substantially reduced by a nearly continuous scattering of slash piles, numerous stumps about 8 inches in height, and constructed roads and jeep trails. The textures and colors of clear-cut areas would contrast sharply with those of surrounding woodland communities or the remanent sagebrush-grassland communities. However, the general shape or form of the clear-cut openings and the line defining them would mimic that of natural openings found throughout the woodland region. As a result, the adverse impacts on visual quality would diminish as the viewing distance increases. Once the viewing distance reaches several miles (beyond foreground viewing) and the presence of slash would not be readily discernible, the visual impact would be minimal. As the clear-cuts regain an abundance of new understory vegetation (grasses, forbs and shrubs), and needles and bark fall from slash piles, the casual observer would not be readily able to distinguish between natural openings and clear-cuts. Mitigation of visual impacts for projects located in the background (generally greater than 3 miles) could be hastened through the use of post-cut prescribed fire. The fire would add a temporary (3 to 5-year) adverse impact on the landscape by blackening it, but would remove the contrasting cutting debris.

The duration of adverse impacts from a woodcut site viewed within the foreground (usually less than three miles) would be dependent upon whether the site receives a post-cut prescribed burn. Burns would generally occur from 2 to 5 years after tree harvesting. As with background viewing, the fire would generate its own adverse impacts on visual quality by adding a sharply contrasting black color to the landscape, but would eliminate the effects of slash piles. With the aid of wind, rain, snow and natural or planted revegetation, the visual effects from the blackened ground would disappear within 3 to 5 years. Only blackened stumps would remain as a reminder of the woodcutting. The stumps could remain for 20 years or more with their visual presence only being lessened by the growth of surrounding shrubs that provide screening. In the absence of a post-cut fire, which is projected to occur about 25% of the time, slash and stumps would be visible well beyond 20 years with stumps lasting 50 years or more.

With cutting and post-burn effects lasting from 10 to 50 years, and cutting projected to occur at a rate of about 600 to 1,000 acres per year, it is highly probable that juniper fuelwood harvesting could contribute to reduced scenic quality on about 17,000 acres by the year 2015. At this time, about half of the acreage (8,000 acres) would retain the severe, short-term adverse visual impacts projected while the remaining acreage would be in varying stages of recovery.

In the cases of juniper woodland communities where only prescribed fire would be used, the effects of fire on visual quality would also depend upon viewing distance as well as the size of the trees involved. When viewed from the foreground, burned areas would contain numerous charred to partially charred tree skeletons and blackened earth and rock. Visual quality would be severely degraded by contrasts in line, form, color and texture. The larger the trees involved, the greater the visual degradation would be. Partially burned trees could retain reddened dead foliage for 3 to 5 years. The reddish color may be seen for several miles, well into background viewing areas. Only after the needles have dropped would trees in close-background areas become indiscernible on the landscape. The presence of burned background trees would also be lessened as the blackened bark falls away to leave a light grayish wood color not readily detectable behind a back drop of sagebrush-grassland communities. This process could take more than 5 years. As in the foreground, burned larger trees would have more of a visual impact in the background areas by requiring greater viewing distances before visual impacts would become indiscernible. Foreground viewing of barkless tree skeletons would remain for as long as 50 years or more depending upon the size of trees burned.

Assuming at least a 5-year period before fire evidence would be reduced, and assuming that 1,500 acres of juniper woodlands would be burned each year independent of woodcut areas, it is highly probable that there would be as much as 7,500 acres of woodland landscape showing the more severe adverse visual impacts from prescribed fire each year. By the year 2015, the woodland communities could cumulatively show another 22,500 acres of residual burned skeleton forests having a lesser adverse impact on visual quality. In summary, it is highly probable that as much as 30,000 acres would have some degree of visual degradation by the year 2015. Since prescribed burning would be done annually to control the juniper woodland community, visual impacts from burning would always be present. However, over time the degree of impact would lessen as reburns would be affecting smaller and smaller age and size classes of encroaching seral trees.

In those areas where prescribe fire would affect sagebrush-grassland communities, the visual impacts would be minimal and of short duration. Prescribed fires in these plant communities would eliminate old-age sagebrush and return the ecological site to an earlier successional stage. This would leave a vegetative mosaic of open grasslands intermingled with remanent stands of big sagebrush on deeper soiled swale sites or low sagebrush on shallower, often stony, low ridgeline sites. This intermingling of line, form, color and texture caused by the variety of vegetation and rocky soil profiles, often including low, meandering bedrock ledges or plateau breaks, would be considered more scenic than a homogeneous landscape of sagebrush. The adverse effects of fire in the sagebrush-grassland communities would come immediately after the fire and for the following one to three growing seasons when the blackened evidence of the fire persists. The fires would leave behind few vegetation skeletons. Those present would be small (sagebrush) and would be rapidly broken down by livestock and wildlife passage, wind, rain and snow. Because of the rapid recovery of visual quality on sagebrush-grasslands, and the relatively small amount of acreage to be burned at scattered locations, prescribed fire is not projected to be a major contributor to the cumulative impact of vegetation treatments in the resource area.

Cumulatively for burning and cutting, it is projected that more severe adverse visual impacts would occur on a total of 15,500 acres per year after the year 2015. An additional 30,000 acres would show a lesser impact due to natural recovery. These impacts would occur predominantly in juniper woodland communities. This acreage is about 18% of the woodland communities. There is currently no way to quantify how many acres of viewshed would ultimately be affected, either as foreground or background, by vegetation treatments. But given the type of topography and vegetation present, and the subsequently large viewsheds possible for any treatment site, some type of treatment site, whether detected as such or not, would be visible from nearly any observation point on 30% to 50% of the woodland region. Without the limitations placed on treatments in VRM Class I and II areas, this percentage could exceed 50%.

Alternative methods of vegetation treatment (chaining and chemical spraying) would produce visual effects similar to those associated with cutting and burning. In the case of spraying, blackened trees would be absent yet reddened foliage and tree skeletons would persist. Chaining would uproot trees rather than leave behind stumps.

Fencing

Alternative C sets standards for construction of range improvements to address public sensitivity to certain areas by establishing VRM classes. In VRM Class I areas, there would be no rangeland improvements in order to preserve pristine conditions. In VRM Class II areas, new range improvement projects should be less than those allowed in VRM Class III and IV areas in order to retain an essentially natural landscape. Existing projects would be reconstructed, if necessary, to meet a higher visual standard at the time of scheduled or required maintenance. Placement of fencelines across landscapes to exclude livestock from wetlands or to delineate and administer allotments and pastures would not directly affect visual quality, particularly in woodland areas. The fences would generally be unnoticeable on the landscape from short viewing distances. What would become noticeable would be the jeep and livestock and game trails which would eventually parallel one or both sides of the fenceline, and the differences in forage utilization that could result from differential levels of livestock use. The jeep trails would result from fence maintenance or off-highway vehicle recreation activities. These features could become substantially noticeable in what may have been an otherwise natural landscape. These effects are quite noticeable in the Owyhee Front SRMA where extensive OHMV use occurs and numerous miles of fence were constructed in the 1980s. Differences in forage utilization across fencelines can also produce a line separating the same vegetative community into two distinctively contrasting colors brought about by differences in the amount and type of forage consumed. The same effect, but more severe, can be caused by fenced seedings. There are examples of this throughout the resource area, particularly along fencelines which delineate boundaries between Federal, State and private lands as well as highway rights-of-ways.

Stream riparian and spring development exclosure fences can cause both beneficial and adverse impacts on visual quality on a localized basis depending on location. These fencing projects usually include an exclosure fence to exclude livestock from the riparian area, a headbox buried beneath the ground to trap water, and a buried water pipe that extends outside the exclosure to a trough (usually green). Construction would result in minimal surface disturbance and lead to an overall improvement in vegetative cover within the exclosure. Lush riparian communities add to the visual quality of the landscape through increased diversity in line, form, color and texture, as well as contribute to increased water which reflects color. However, the physical isolation of riparian areas from livestock use can also contribute to concentrated trampling and removal of vegetation outside the exclosure fence. In Alternative C there is the potential for turning a number of viewsheds into ribbons of lush, green riparian vegetation bordered by livestock and game trails along the exclosure fences, generating lines and forms that would not be in harmony with natural features. There is the potential to create "boxes" of riparian landscapes that could affect the visual quality of water courses. To mitigate this visual impact in sheer-walled canyon areas of the Owyhee River GRA, fences could be placed among the sheer topographic breaks that surround the canyons. Elsewhere, mitigation would be more difficult in predominately V-shaped drainages because fences would generally have to be placed in the bottomlands adjacent to the riparian areas, forcing livestock and game to trail along the fencelines. In these areas fences could be constructed to not run in straight lines for any great distance, to not remain an equal distance from the stream course along the length of the riparian area, and to tie into prominent natural features where possible. With such mitigation, the extent of fence development in Alternative C would not be sufficient to substantially alter the overall characteristic landscape of the resource area.

Livestock Reservoirs

As with fences, livestock water impoundments (reservoirs) can be designed to reflect concerns over visual quality depending upon the affected area's VRM classification. A higher visual standard would be achieved by emphasizing the use of line and form in the layout and construction and reconstruction of earthen dams. These two elements of the natural landscape would need to be mimicked during construction of the dam and impoundment area in order to successfully blend a reservoir into the natural landscape. Generally, the blending would require the use of curved lines to define a crescent-shaped, shallow-sloped dam form (the dam slopes to be of equal or lesser gradient than surrounding topography that defines the stream channel or draw). Such a dam would appear as a "natural" extension of surrounding topographic relief and would assure that the surface area of the impounded water appears as a small circular, oval or "teardrop" lake formation that harmonizes with the surrounding landscape characteristics. The presence of surface water would enhance the scenic quality of landscapes.

Restoration of native vegetation around the reservoir site could also lessen the visual impact of dam construction and surrounding surface disturbances by restoring the original landscape elements of color and texture. However, reservoirs, by their very purpose, concentrate livestock use, which inhibits or prevents vegetation restoration. Vegetation restoration would also be difficult when borrow pits are used to construct dams. Borrow pits remove A and B soil horizons; leaving behind soil substrates that would be generally unsuitable for vegetative growth. These exposed substrate areas would not only reduce revegetation potential but usually would have a notably different color than surface soils which would make the dam site highly visible at greater viewing distances even though line and form standards would be met for the dam itself. Consequently, in VRM Class II areas, the use of dam building materials from outside the water impoundment area would be prohibited.

In VRM Class III areas, reservoir construction could occur without restricting numbers and attempts would be made to construct dams to the standards required in VRM Class II areas. Borrow pits could be used with discretion and top soils would be set aside to recover the pit area. In VRM Class IV areas, reservoirs could be constructed using more conventional methods with dam faces at 2:1 slopes (vertical:horizontal), straight lines defining the front of the dam as well as the water line behind the dam, and the use borrow pits. Such methods could introduce unharmonious straight, vertical or steep diagonally lines and "sharp" forms into the desert plateau landscape comprised of horizontal straight lines and subordinate curved or wavy lines and "soft" forms. However, in steep, mountainous terrain or draws, steeper diagonal lines and sharper forms may be appropriate to mimic terrain features. Since most of the resource area would be in VRM Class IV, this type of construction could continue to be the rule rather than the exception. However, there is currently a policy to build all new reservoirs to Class II standards whenever possible, allowing for deviation to the Class III and IV standards where necessary because of specific physical site constraints.

Pipelines

Water pipelines extending for many miles from the water source are often found in association with spring developments and wells. There is technology available to keep surface disturbances associated with laying pipelines to a minimum in deeper soil types. In shallower, rocky soils, bulldozed trenches could be required, thereby enlarging the linear disturbance which contributes to color, texture and line disharmony on the landscape. While disturbances could readily heal in many areas within 5 years, the pipeline would often parallel a maintenance road that would perpetuate the visual impact of the pipeline. The troughs used on pipelines would not be obtrusive, but could lead to the localized loss of vegetation from concentrated livestock use, somewhat reducing visual quality.

Watershed Stabilization Projects

Watershed stabilization projects would be used to secure eroding streambanks and prevent further erosion in side slope gullies, usually the result of concentrated grazing by livestock and recreation use. The projects would use unlimbed juniper trees to line stream channels (attached by steel cables) and rock gabion dams or wooden planks. Initial placement of these projects would include disturbance to riparian vegetation and soil areas or, in the case of juniper structures, would leave the stream lined with numerous, unsightly dead trees and an occasional exposed steel cable. Such disturbances would be short-lived. Disturbances associated with rock gabion dams would be mitigated by riparian vegetation regrowth and channel siltation in less than 5 years. Juniper logs would become imbedded in streamsides, as intended, within 5 to 10 years. Once vegetation is restored, usually to a degree beyond that present prior to the project, the affected stream channels would show an overall improvement in visual quality. The improvement would be attributed to the increased abundance, and sometimes diversity, of riparian vegetation. Increasing riparian vegetation along canyon bottoms would enhance the overall scenic quality of the landscape by enriching it with color and texture. These efforts could also improve the year-long abundance of surface waters that would enhance visual character.

Wildlife Guzzlers

Wildlife guzzlers would consist of a fence exclosure and an encatchment system that would look like a corrugated, square to rectangular piece of roofing set just above ground level. Such projects would usually be associated with dry climate areas of the Owyhee Front. As such they do not release water to generate riparian vegetation screening; but sagebrush and grasses could become dense within the exclosures. To mitigate the visual intrusion of these small projects, the guzzler sites could be painted a compatible color and placed to not draw attention within the affected viewsheds.

Recreation Facilities and Activities

Existing and prescribed recreation site developments in Alternative C are few and widely scattered and generally would not affect the scenic quality of the resource area as a whole. Recreation sites have been designed to reflect concern for the four basic elements of the characteristic landscapes found in their viewsheds; form, color, line and texture. The Owyhee Front OHV Trailheads and Jump Creek Recreation Site facilities would alleviate OHMV-generated soil damage, public health and sanitation concerns, and excessive soil damage caused by indiscriminate foot trailings in sensitive vegetation communities. All these factors are contributing to a decline in visual quality at frequently used recreation sites. Recreation site developments similar to the North Fork Campground that could occur in Alternative C would initially modify the natural landscape. Yet, over the long term, the projects would reduce visual damage to recreation sites from concentrated recreational use as more and more people venture into the Owyhee Uplands plateau.

The foot/equestrian trail system prescribed in Alternative C for the North Fork Owyhee River region would allow increased public opportunities to experience the exceptional scenic qualities of the Owyhee Uplands plateau. At the same time, this development would result in both initial construction impacts and localized visitor use impacts. Initial impacts would include construction of trails along (lower North Fork) or across (upper North Fork) river channels currently unaffected by any development. Trails would average 2 to 4 feet in width, have longitudinal gradient objectives of 10% or less, and have constraints on the frequency of bridge crossings. Such trail characteristics would produce a trail system that would have minimal effects on visual quality. Vegetative screening from juniper woodlands and moderately dense to dense riparian communities coupled with careful location of necessary trail switchback areas (nestle behind rock escarpment) and bridge crossing (keep one bridge out of sight of the other) would keep the trail substantially unnoticeable on affected landscapes as a whole. Recreation use of the trails would result in localized trampling of vegetation and soil compaction at popular primitive campsites, leading to localized adverse visual impacts. These impacts could be kept to a minimum by periodically resting select campsites. Without such a trail system somewhere in the Owyhee Canyonlands to help manage recreation use, there is a moderate to high probability that unregulated foot traffic associated with increasing backpack use would eventually develop indiscriminate trailings along the river corridors similar to those present in Jump Creek Canyon. Monitoring of the portage trails around several rapids on the East Fork Owyhee River suggests that it would take a relatively small amount of recreation use to cause a serious trailing and erosion problem of talus slopes in the canyonlands. These trailing cause considerably greater visual degradation than would a constructed and maintained trail system.

Implementation of off-highway motorized vehicle designations in Alternative C would help mitigate visual impacts on the Owyhee Front by prohibiting hill climbing activities at all but the Hemingway Butte site. Under the general authority of emergency closures (43 CFR 8340) and the shift from a Limited - Level 1 to a Level 5 designation, closing some sites to prevent further OHMV-related visual damage is projected. Through continued public education, maintenance and enforcement under the Limited - Level 1 designation, additional hill climbing areas in the West Rabbit Creek area and the Owyhee Front SRMA as a whole would be reduced or eliminated and OHMV trails would be limited to their current extent.

Elsewhere in the resource area, Limited - Level 4/5/6 designations in Alternative C would restrict development of new jeep trails and would allow for some orderly development of single-track trails in a portion of the Owyhee Mountains. Area-wide restrictive OHMV designations would help reduce off-road activity overall. However, unauthorized OHMV travel is projected to continue in some areas despite the restrictive designations.

Energy and Mineral Development

Exploration activities for the Stone Cabin Mine, at the upper northwest elevations of Florida Mountain on the south side of the Jordan Creek watershed near Silver City, have left behind a mountain top partially devoid of vegetation and reshaped into a series of cut-and-fill terraces. The operation would result in removal of about 135 feet of the mountain's northwest top. On the south side of the mountain, an 80-foot wide haulroad would allow trucks to haul ore material to a processing plant at DeLamar Mine. This mine has been operating as an open-pit for about 20 years resulting in removal of the top of DeLamar Mountain. Computer modeling done for the Stone Cabin Mine EIS determined that the Florida Mountain operation would be visible from 11,900 acres within the Jordan Creek watershed (VRM Class II) and another 27,000 acres of surrounding VRM Class III and Class IV lands. Though no acreage was specified in the Stone Cabin Mine EIS, the cut-and-fill of the haul road would be visible over large acreages to the southwest, as is the pit at the top of DeLamar Mountain. Impacts on visual quality would vary within the region depending upon the viewer's elevation and slope aspect. When in full view of the mining operation, impacts on visual quality would be considered to be "significant" in both the short term and long term, and would not be mitigated. Cumulative impacts on visual quality in the Snake River and Jordan Creek geographic reference areas from past and existing mining are already considered to be substantial. There is a high probability that mineral development such as that of DeLamar and Florida Mountain would occur in other nearby mountains, further degrading the scenic resources of the Owyhee Mountain Range as a whole.

While much of the Owyhee River geographic reference area is currently considered to have low mineral development potential, there is a low to moderate possibility that exploration activities could come to this region of the resource area and also cause an irreversible and irretrievable loss of visual quality. Of greatest concern are the Owyhee Canyonlands where geological structures associated with fracturing and faulting invite exploration. As with the steep slopes of the Owyhee Mountains, exploration activities which would deface the canyon walls of the Owyhee River system cannot be rehabilitated, partially destroying what is considered by many a national scenic treasure. Only wilderness designation or the wild river designations prescribed in Alternative C would ensure the long-term protection of the North Fork, East Fork and South Fork Owyhee Rivers, and Deep-Current Creek by withdrawal of public lands from mineral entry. For details concerning impacts of mineral exploration and development in the Owyhee Canyonlands, refer to the Owyhee Canyonlands Wilderness EIS.

Along the Owyhee Front, and in the Owyhee Canyonlands area, there is a low potential for the exploration of oil and gas resources. For the purposes of environmental analysis, the Owyhee RMP provides a development scenario relating to these resource uses. In both areas, oil and gas activities would introduce a series of small facilities to explore and extract discovered reserves. On the plateau surrounding the Owyhee Canyonlands, such developments would seriously contrast with the characteristic elements of the vast, open, relatively flat natural landscape. Viewsheds have the potential to be quite large. It is projected that 5,100 acres of plateau lands would have scenic quality substantially reduced by oil and gas activities in the scenario given in the Owyhee Canyonlands Wilderness EIS. Visual impacts could not be notably reduced by alterations in facility design and coloring. Along the Owyhee Front, rolling, highly convoluted peneplain topography could be used to mitigate the developments. However, because of their vertical character as compared to the somewhat horizontal character of the natural landscape found in the Owyhee Front as a whole, some level of substantial impact on visual quality is projected in very localized viewsheds.

Utility Corridors

The Owyhee Canyonlands Wilderness EIS also provides a development scenario for a high voltage powerline utility corridor through WSAs ID-16-49D and 16-52 lying just west of the Duck Valley Indian Reservation. In the alternatives presented in the wilderness EIS there are 10,330 to

10,760 acres of WSA lands where scenic values could be substantially reduced by powerlines in the absence of wilderness designation. The impact would be caused by the introduction of large, vertical, columnar forms and vertical lines of towers as well as surface disturbances from construction and maintenance roads into a vast, open, relatively flat plateau landscape. It is projected that an additional 25,000 acres of non-WSA lands could also be affected by utility corridor development. This visual impact could be mitigated or prevented by the alternative wild river designation for the East Fork and South Fork Owyhee River.

Conclusion

Implementation of Alternative C would result in the widespread degradation of scenic quality in the woodland communities of the resource area from vegetation treatment projects. It is projected that about 18% (45,500 acres) of the woodland communities would exhibit slight to severe impacts on scenic resources over the next 20 years. Affected viewsheds in the woodland region could exceed 30% of the land base. However, over the long term (20-50 years), the vegetation treatments would produce a highly scenic landscape diverse in the four basic landscape elements (line, form, color, and texture). Visual degradation to a moderate to severe degree in also projected to occur from ongoing mineral exploration and development activities in the Owyhee Mountain Range. Range improvements combined with recreational use (mostly OHMV activity) and small scale mineral activities would cause localized slight to severe adverse impacts that would eventually contribute to an overall slight decline in the scenic quality of the resource area. Though initially disturbing natural landscapes, the development of recreation facilities to manage both motorized and nonmotorized recreation use would have some beneficial long-term localized impacts on scenic quality at isolated, specific sites or areas.

In the absence of wilderness or wild river designations in the Owyhee Canyonlands region, utility corridor developments would be likely to cause severe, adverse visual effects on as much as 35,760 acres. Should fluid mineral exploration also occur on the plateau surrounding the Owyhee River, an additional 5,100 acres could have substantial adverse visual impacts during the exploration period, or for the long term if reserves are discovered. Locatable mineral activities in the canyonlands could also degrade highly scenic areas.

Meeting the Objectives

Objective VISL 1: Manage public lands for visual resource values under Visual Resource Management (VRM) classifications.

Alternative C would fully meet this objective because it provides for a broad range of visual settings to compliment the resource area's recreational opportunities, including VRM Class I designations, to protect the highly natural and highly scenic areas of the resource area.

CULTURAL RESOURCES

Change Agents

Scientific collection, mining activities, ACEC designation, OHMV activities, vandalism, livestock grazing, wildlife habitat exclosures, streambank stabilization, acquisition and weathering and decay.

Impact Analysis

Planned actions which produce adverse impacts on cultural resource sites are limited by management procedures to scientific collection and excavation, and would only occur in situations where scientific research by an accredited entity (such as a university or other research organization) is permitted. These impacts would be mitigated, however, by the compilation of scientific data which are deemed to be significant by the archaeological profession. Beneficial impacts are produced by management strategies designed to preserve scientific data for future use, or for recreational or educational use. In Alternative C this latter category includes the protection accorded to the Oregon Trail and the existing Guffey Butte/Black Butte, Silver City and DeLamar National Register Districts.

Adverse impacts which occur to cultural resource values as a result of the implementation of projects generated by other resource activities are generally diminished by the performance of project specific cultural resource inventories in advance of project implementation. If it appears (as a result of a cultural resource inventory) that a cultural resource site would be adversely impacted by project implementation, the project be redesigned to avoid the impact. Should this not be possible, adverse impacts would be mitigated by appropriate strategies, including scientific excavation and collection, depending on the significance of the site in question. A significant exception to this would come from projects conducted under the Mining Law of 1872. It is often not possible to respond within a reasonable time frame to potential adverse impacts caused by mining operations.

Impacts from minerals related projects would be mitigated somewhat in Alternative C by the designation of an Area of Critical Environmental Concern (ACEC) in the Rooster Comb Peak area. The ACEC designation requires a Plan of Operations to be submitted for any minerals action proposed within the ACEC area, and an extension of the time period for which response is required. This extended time frame would provide a greater opportunity for the mitigation of damage to significant cultural resource sites.

Additional ACEC designations prescribed in Alternative C are Lambert Table and Sinker Creek. Management actions designed to protect or enhance cultural resource values within these areas include a limitation of OHMV activity in the Sinker Creek area to afford extra protection to the Oregon Trail and associated historic sites; and a change in the livestock turnout date in the Lambert Table area to protect significant prehistoric cultural resource sites from the effects of livestock trampling.

Additional adverse impacts on cultural resource values would occur from natural weathering and decay.

Beneficial impacts on cultural resource sites could occur as a result of projects generated by other resources. Wildlife exclosures could have the effect of isolating a cultural resource site from adverse impacts from livestock grazing, riparian treatment plans could benefit cultural resource sites by providing streambank stabilization, restrictions on OHMV use could lessen the effects of vandalism, and lands actions taken to block up Federal land holdings could facilitate the management of large clusters of significant cultural resource sites.

Cultural resources are fragile and non-renewable, and adverse impacts are generally cumulative through time. Therefore, short-term impacts (such as a single occasion of vandalism) could increase in severity from natural forces (erosion, etc.) so that the long-term (20 year) effect increases in severity. In Alternative C all of the sites known to be deteriorating from the effects of change agents would be visited to determine site condition and mitigation needs. It is possible that during this period of time some of the 444 sites known to be deteriorating would be destroyed, however a large number would be afforded adequate protection.

Conclusion

Beneficial effects would be appreciable from actions taken to actively manage cultural sites, such as site monitoring to determine rate of deterioration, and the development of site treatment plans, and from ACEC designation. Other beneficial effects would accrue as a result of the implementation of land treatment programs (riparian, wildlife exclosures, etc.) land exchanges and recreation program restrictions to OHMV.

Fewer adverse impacts (than Alternatives A and B) would occur to the majority of sites known to be deteriorating from the effects of change agents, including minerals program actions, livestock trampling, and natural forces.

The overall effect over the duration of the plan would be generally beneficial.

Meeting the Objectives

Objective CULT 1: Protect known cultural resource values from loss until their significance is determined.

5 years: This objective would be met.
20 years: This objective would be met.

Objective CULT 2: Provide special management emphasis for the protection and conservation of significant cultural resource sites and values.

5 years: This objective would be met.
20 years: This objective would be met.

Objective CULT 3: Increase the opportunity for educational, recreational, socio-cultural and scientific uses of cultural resources.

5 years: This objective would be met.

20 years: This objective would be met.

HAZARDOUS MATERIALS

Change Agents

Land use authorizations and mining activities.

Impact Analysis:

The Bureaus approach to hazardous materials management on public lands in this and all alternatives (1) seeks to prevent the generation and acquisition of hazardous wastes; (2) is intended to reduce the amounts and toxicity of wastes generated; (3) provides for the responsible management of waste materials in order to protect the natural resources as well as the people who live and work on and those who use Bureau-managed lands; and (4) provides for aggressive clean up and restoration of Bureau lands that are contaminated by waste materials.

All proposed activities on public lands would be thoroughly analyzed as to whether materials potentially hazardous to the environment and the public welfare would be affiliated with the activity. A full disclosure of all hazardous materials, their use, storage, transport, and disposal would be required prior to authorization.

The largest hazardous materials site in the resource area is the DeLamar Mine. The cyanide heap leach pond and cyanide pond are on public lands and are permitted by the State of Idaho. Large quantities of chemicals and fuels are transported over Bureau administered roadways as part of this mining operation. Operation of the Stone Cabin Mine would require additional chemicals and fuels.

Conclusion:

The overall impact of Alternative C on hazardous materials management would not be substantial.

Meeting the Objectives:

Objective HAZM 1: Reduce the occurrence and severity of hazardous material incidences on public lands.

This objective would be met.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Change Agents

Relevant change agents for each area are listed below. The impact analysis for each of these change agents applies to those areas where identified. Impacts on specific areas are addressed where notable. See Table ACEC-4C for a tabular impact analysis summary.

Guffey Butte/Black Butte Archaeological District: recreation use.

Owyhee River Bighorn Sheep Habitat Area: livestock management, recreation use and OHMV activities.

Boulder Creek Outstanding Natural Area: livestock management.

Cinnabar Mountain: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and OHMV activities.

Coal Mine Basin: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and plant collection.

Hells Creek: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities and mineral materials activities.

Jump Creek: fencing, fire management, fluid minerals activities, mineral materials activities, recreation use and OHMV activities.

Juniper Creek Watershed: livestock management, juniper removal, fire management, locatable minerals, recreation use and OHMV activities.

Juniper Mountain: water developments, livestock management, fencing and recreation use.

Lambert Table: livestock management.

McBride Creek: rights-of-way, livestock

management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use, OHMV activities and plant collection.

North Fork Juniper Woodland Outstanding Natural Area: water developments, livestock management, fencing, recreation use and OHMV activities.

Pleasant Valley Table: livestock management, juniper removal, fire management, fluid minerals activities and recreation use.

Rooster Comb Peak: no Change Agents have been identified at this time.

Sinker Creek: rights-of-way.

Squaw Creek: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities and OHMV activities.

The Badlands: rights-of-way, water developments, livestock management, fencing, juniper removal, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use, OHMV activities and plant collection.

The Tules: recreation use and OHMV activities.

Upper Deep Creek: water developments, livestock management, fencing, juniper removal, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and OHMV activities.

Impact Analysis:

Surface, subsurface, and overhead rights-of-way in several areas (Juniper Mountain, Lambert Table, and portions of Rooster Comb Peak) would have no adverse impact on the principal resource values identified. These areas are large and roaded, and have not typically been recognized for their scenic values. The archaeological and watershed values would be maintained since clearances would be conducted prior to granting any right-of-way. However, depending on the type of right-of-way, wildlife values could be adversely impacted through habitat loss and other incurred disturbances. Managing some areas for rights-of-way "avoidance" would have no adverse impact. Such areas typically have existing roads or radio towers within their boundaries. The "avoidance" constraint allows existing facilities to be maintained and encourages other route selections for new projects. Excluding rights-of way within WSAs, areas with high scenic or biological values, areas that are currently unroaded and areas where roads would cause severe degradation would have a beneficial impact on these environments. Scenic and biological qualities would be maintained by precluding ground disturbance and aerial obstructions.

In Alternative C, 13 spring developments, 11 reservoirs, and 22 miles of pipeline and associated troughs are identified. The restrictions on water development placement identified for most areas would have either no impact or a beneficial impact on the identified values. Botanical, wildlife and scenic resources would generally benefit from restrictions or prohibitions on water developments, as ground disturbing actions and livestock concentrations would be precluded. Weed introductions would be minimized as would conflicts with special status plants. Scenic values would be maintained by restricting the potential for visual intrusion. In areas where water projects may still be developed, typically where the identified resource is of a cultural value (Guffey Butte/Black Butte, Lambert Table, Sinker Creek), adverse impacts on botanical and scenic values would be both short- and long-term. Because cultural clearances would be conducted for all projects prior to authorization, cultural resources would not be adversely impacted.

The overall impact of prohibiting or restricting salt placement and grazing use would generally be beneficial for the vegetative, cultural, scenic, and wildlife resources of the areas. Better control over salt placement would prevent trampling and soil compaction from degrading sensitive resource sites. Prohibiting livestock from Jump Creek and Squaw Creek and restricting livestock use in areas recognized for their botanical resources, would increase the value of such areas as rangeland reference areas and RNAs.

Restricting the construction of pasture fences that would effectively increase grazing use in a given area would have a long-term beneficial impact on the vegetation and scenic quality of these areas. The 52 miles of pasture fence identified for construction accompanied by lower stocking rates would have a short-term adverse impact on the vegetation during and immediately following construction, but over the long-term, the vegetation is projected to benefit. If not carefully positioned, the scenic qualities of some areas would be adversely impacted by pasture fence construction. Restricting or prohibiting exclosure development would have a beneficial impact on the areas, as exclosures would be built only if they excluded livestock or lowered the grazing use of the area, and did not alter the scenic quality. Twenty-four miles of exclosure fence are identified in Alternative C.

The discussion of juniper removal is not applicable to eight of the nineteen areas, and has been identified as a Change Agent for four of them - Juniper Creek Watershed, Pleasant Valley Table, The Badlands, Upper Deep Creek. Prohibiting juniper cutting or burning in these four areas would have a beneficial impact on their high scenic values, and would also benefit the special status plant species and RNA/rangeland reference area qualities for which Pleasant Valley Table and The Badlands have been recognized. In Alternative C, 30,300 acres of juniper are identified for burning, 25,400 fewer than in Alternative A. The same number of acres (17,000) are identified for cutting in Alternative A and C.

Fire management actions would be restricted and in some cases prohibited in Alternative C. A generally beneficial short-term and long-term impact is projected. By restricting fire suppression to those instances where life or property are threatened, natural plant recovery would be allowed to occur. This is consistent with the RNA management concept where relatively unaltered areas are treated as "control" or reference sites for evaluating resource management practices, for conducting research and for educational purposes. Populations of Simpson's hedgehog cactus, many of which occur in sparsely vegetated habitats, would benefit more from fire than they would from suppression activities, which could be highly destructive to some populations. Scenic values would be maintained by limiting the use of heavy equipment which often leaves major scars.

Restricting fire vehicle use to existing roads in those areas where roads are present would provide for protection of facilities both on site and on adjacent ground, while providing for resource protection.

Fire rehabilitation restrictions would have a beneficial impact on the areas. Except under threat of severe erosion, where sites were already dominated by exotics, and where the principal resource (i.e. special status plants) can be avoided, no seeding would be permitted in order to allow natural regeneration of high ecological condition sites. If severe erosion or invasion by annuals of special status plant sites is projected, seed or seedlings of native species may be used for rehabilitation of these problem areas by aerial or hand planting methods only. Alternative C provides for the determination of rehabilitation suitability on a site specific basis.

In Alternative C, the constraints (closures) on fluid minerals activities in nine areas (Cinnabar, Coal Mine Basin, Hells Creek, Jump Creek, McBride Creek, Pleasant Valley Table, Squaw Creek, The Badlands, Upper Deep Creek) would have either a beneficial impact or no impact on the identified values in each of the areas. No impact would occur in existing ACECs or special management areas where fluid mineral constraints are currently in place. While fluid mineral development is unlikely in most of the areas given their geology, closures and no-surface-occupancy constraints are proactive measures that would preclude the potential for exploration disturbance, a more likely scenario. Leaving portions of several of the larger areas (i.e. Juniper Mountain, Lambert Table, Rooster Comb Peak) in an "open-subject to standard terms and conditions" or a "no surface occupancy" category would have no impact or a slight adverse impact on these areas should fluid mineral exploration and or development occur. The prevalence of existing roads for access and the opportunity to establish management stipulations for protection of identified resource values would largely preclude adverse impacts.

Constraints on mineral materials activities would cause short-term and long-term beneficial impacts. Closures to mineral material disposal would best protect the botanical, wildlife, scenic, and cultural resource values requiring special management, given the uncertainty of future mineral material needs and technological advances. Left partially open or open to mineral material disposal are those large, relatively well-roaded areas (Juniper Mountain, Lambert Table, Rooster Comb Peak) with high cultural and watershed values. Road accessibility in these areas, the nature of the identified special resources, and the discretionary character of mineral material actions are such that the disposal of mineral materials could occur with no long-term adverse impacts on the identified resources. However, both short-term and long-term adverse impacts on other resources (i.e. vegetation, wildlife) could occur on selected sites.

Locatable minerals constraints would have a beneficial long-term impact on the scenic, biological, and cultural resources within the areas identified for special management. Areas would be beneficially impacted in that designation as an ACEC requires the development of a plan of operation for all mining disturbances including those less than five acres. Plans of operation permit a greater measure of protection for all resources since resource-protecting stipulations would be included. Areas with moderate mineral potential combined with relatively low resource values were not recommended for withdrawal. Withdrawal was also not sought for Cinnabar Mountain, as a validity examination (part of the withdrawal process) would likely find the mineral value of this area to be of uncommon variety, and a withdrawal could not be authorized under the existing mining law. Withdrawal was sought in areas with concentrations of special status plant species where mineral validity is uncertain. If determined invalid the land could be withdrawn and the species protected. However, if determined valid, the claims could be mined.

OHMV designation would have a beneficial impact on areas recognized for the good or excellent condition of their plant communities, on wildlife, on scenic and wilderness qualities and on special status plant species. As recreational use of the Owyhees increases, particularly of its rivers, Alternative C would preclude the development of access roads or trails into currently unroaded areas, and discontinue use in those that are particularly sensitive. Due to the topography (i.e. deep canyons unsuitable for OHMV use) of some areas, a "closed" OHMV designation would have minimal impact on the OHMV user. Changing the OHMV designation from "open" to "limited" in some areas would eliminate the potential development of new roads and trails but allow maintenance activities and access to continue.

Restricting plant collection in three of the areas (Coal Mine Basin, McBride Creek, The Badlands) would have a beneficial long-term impact on the special status plant species present in these areas. Through the restriction, removal of these special status plants would be minimized in an effort to maintain populations. There would be no impact on plant populations in the other areas where casual collecting for scientific or educational purposes is left open.

Conclusion

The overall impact of Alternative C on the areas is projected to be beneficial. Special management actions that control adverse change agents would be implemented.

Meeting The Objectives

Objective ACEC 1: Designate Areas of Critical Environmental Concern (ACECs) where relevance and importance criteria are met and apply special management to protect the values identified.

This objective would be met on 17 of 19 areas in Alternative C. The 17 areas meeting the relevance and importance criteria would be designated and special management actions to protect the identified resource values would be implemented.

SOCIAL AND ECONOMIC CONDITIONS

Change Agents

Population and recreation growth, livestock grazing levels and Federal expenditures.

Impact Analysis

Greater Idaho's population is projected to increase throughout the next 20 years. Population growth has been a dynamic force in the current economic growth in southwestern Idaho. Between 1990 and 1993, regional population has grown by 37,700 or 11.3% within the four-county region of Ada, Canyon and Owyhee Counties in Idaho and

Malheur County in Oregon (Bureau of Economic Analysis, Regional Economic Information System). However, population growth has taken on new dimensions, including quality of life considerations, here in this latter part of the 20th century. Recent migration has been toward smaller urban or rural areas and away from the large overcrowded metropolitan areas. Quality of life factors such as lower taxes, less inflation, lower crime rates, economic boom and leisure and recreational opportunities are sighted as reasons for this migration trend. This has resulted in increased pressure on the public land to provide a socially acceptable mix of land uses; away from consumptive use toward more nonconsumptive or preservation and retention in the public domain. The Owyhee Resource Area will continue to see increased pressure as regional population growth from nearby Ada, Canyon and Malheur Counties drives demand for alternative, and often conflicting, uses of these public land resources.

The following impact analysis is based on computer modeling of the regional economy for Owyhee, Ada and Canyon Counties in Idaho and Malheur County in Oregon using Micro IMPLAN (IMpact analysis for PLANning) which performs regional input-output analysis. (See Appendix SOCE-1 for a short summary of the modeling technique used in this impact analysis.)

Decreases in the number of Animal Unit Months (AUMs) permitted for livestock grazing (115,144 AUMs to 89,257 AUMs, or 25,887 AUMs) would decrease the number of cow/calf pairs by 2,049 within Owyhee Resource Area. This would be a 4.5% decrease over current cow/calf pairs (based on 1992 Census of Agriculture statistics for Owyhee County). Livestock revenues would decrease by $1,040,892 (based on $508 per cow/calf pair). This would be a negative impact to the local/regional economy by reducing output. This normally translates into fewer goods and services locally generated along with less employment. According to the model results, employment would decrease by some 34 full time equivalents (FTE) within Owyhee County and by 48 FTE if Canyon, Ada and Malheur Counties are included. Because Owyhee County has such a small labor force it is likely that the greater number of these lost jobs would come from nearby counties. Personal income (made up of employee compensation and proprietors income) would decrease by $1,062,400 within Owyhee County and by $1,263,600 if Canyon, Ada and Malheur Counties are included. However, income multipliers for Owyhee County are not large, therefore, the negative impact on Owyhee County would not be projected to be as traumatic as if the lost income were spent and respent within the county many times.

Changes in the season of use (the July 15 end-of-grazing-season constraint) for range livestock grazing on the public land could have an impact on current ranch operations. Either additional forage (public or private pasture, or supplementing with purchased hay) or a change in management style could become necessary as suggested in Marousek, Stodick and Schimmel (Risk-Efficient Production Management Alternatives for Ranchers Using Public Land Grazing, Journal of Production Agriculture, 1992). Their study suggested that "beef producers who rely on public land forage may have alternatives to marketing calves directly off the range. These potential value-adding activities include backgrounding calves for sale or for further growth, as well as retaining ownership of calves or yearlings through feeding to slaughter grade in custom feedlots."

In addition to a decrease in final demand for range fed cattle (the decrease for products from the range fed cattle sector—i.e. the reduced number of livestock that cannot be fed and sold due to a decrease in available forage on the public lands; the ultimate consumers of commodities - both goods and services), there would be an increase in Federal funds expenditures to construct range improvement and recreation projects within the Owyhee Resource Area (See Table SOCE-7 for cost breakdown). For purposes of analysis, this would be evenly distributed throughout the next 20 years. An increase in final demand for labor and materials for the construction and implementation of these projects would result in an employment increase of approximately 5 FTE and $139,200 in income for Owyhee County and 5 FTE and $172,700, respectively, if Canyon, Ada and Malheur Counties are included. Again the additional workforce likely coming from counties surrounding Owyhee County.

Recreation activity is projected to increase approximately 70% between 1995 and 2015. However, it is not suggested that the increased recreation activity would be in response to BLM actions, rather, the regional population growth would be the root cause of any additional recreational activity on the public lands in the planning area.

Total regional economic impact to Owyhee County from changes in livestock grazing activity, Federal employment, and wholesale purchases of project materials is estimated to decrease final demand (the ultimate consumers of commodities - both goods and services) by $1,120,400 and decrease employment by approximately 29 FTE and personal income generation by $923,200. When Ada, Canyon, and Malheur Counties are included these figures become $1,519,800 in final demand, 42 FTE in employment and $1,090,900 in personal income generation. Taken as a whole, this is considered to be more significant for Owyhee County (however, its is less than 1% of total output) than for the four-county region.

Population decrease attributable to the decrease in output of goods and services on the public lands is projected to be small. The intra-regional population is projected to decrease by approximately 70 in response to the decrease in final demand for goods and services. With more than 370,000 currently within the four-county region, the decrease would not be significant.

The percent changes for Owyhee County and the four-county economic region are summarized below. See Table SOCE-C for the total regional effects. See Figures SOCE-1 and SOCE-2 for a graphic comparison of the alternatives.

	Final Demand	Total PW Income	Employment
Owyhee County	-0.69%	-0.88%	-0.85%
Four-County Region	-0.02%	-0.02%	-0.02%

Conclusion

Negative impacts are projected for the local/regional economy by decreasing regional output of goods and services and employment. The impact is not projected to be significant enough to cause financial hardships for the local or regional infrastructure. Social services and other factors that currently contribute to the quality of life locally and regionally would not be significantly affected by the decrease in population.

AIR RESOURCES

Change Agents

Prescribed burning, mining activities, national river designations, WSA lands and Section 202 study lands, road construction, plow and seed operations and aerial pesticide/herbicide application.

Impact Analysis

A total of 64,400 acres are identified for possible prescribed burning over the next 20 years. Up to 9,000 acres per year would be treated. Individual burns would be limited to 3,000 acres with a 72 hour interval before any new burn actions. Only limited controlled burning would be allowed in areas where the emissions would impact the Class 1 air quality criteria designation for WSA lands and Section 202 lands. During burning operations a one to two day localized decrease in air quality would occur. By limiting the size of the burn, allowing a time interval of 72 hours between burns, conducting burns when climatic factors are optimal for good dispersion, and coordinating with other air quality influencing actions in the area at the time of the burns (to reduce potential cumulative impacts), impacts from this action would not be substantial.

Mining operations have several sources of air pollutants. Sources of particulate (i.e., dust) emissions in mining operations include drilling, blasting, and ore collection in the mine pit, plus wind erosion from ore pits, ore loading into trucks, trucks moving over haul roads, and trucks dumping ore into piles, ore loading onto conveyors and ore crushing into small processing sizes, crushed ore screening and crushed ore smoothing, waste rock smoothing in waste piles and wind erosion from waste piles.

The active DeLamar Mine is currently the major source of these types of emissions in the resource area. Air quality impacts due to the Stone Cabin Mine are addressed in the Stone Cabin Mine EIS and will not be addressed in this document. Cumulative impacts of the DeLamar and Stone Cabin mining operations would have an insubstantial impact on local air quality in the area. Impacts projected from small scale mining operations would not be substantial due to the limited size and nature of these operations, although if in the same vicinity of the DeLamar and Stone Cabin sites they would add to the cumulative impact.

The following would be withdrawn from mineral entry, fluid mineral development and mineral material disposal: all SRMAs, ACECs, the SRBOPNCA (by Public Law 103-64), and Section 202 study lands; all WSAs and future designated wilderness lands; all eligible and future designated Wild, Scenic, or Recreational Rivers and their corridors; all designated national rivers; all known important paleontological and cultural resource sites; and all areas where special status species might be adversely impacted. This would preclude any impacts on air quality associated with mining or mineral exploration.

Impacts from road construction, plow and seed operations, and aerial application of pesticides/herbicides would result in minor short-term impacts on air quality dependent on size of the operations and adherence to best management practices during the operations.

Conclusion

The overall impact of Alternative D on air quality would be beneficial.

Meeting the Objectives

Objective AIRQ 1: Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration regulations with all authorized actions.

This objective would be met in Alternative D.

SOIL RESOURCES

Change Agents

Livestock grazing, OHMV activities, fluid mineral and locatable mineral activities, special designations, rights-of-way and vegetation treatments.

Impact Analysis

In Alternative D, it is estimated that broad based erosion rates would show a slight to moderate decrease. These broad based decreases in soil erosion would be primarily due to the increase in vegetative density and composition projected over the next 20 years. See "Affected Environment" - Soil section for effects of vegetative composition and density on soil erosion. Erosion as a result of mechanical soil disturbing activities (i.e., livestock hoof action, OHMV, mining related actions and construction) would also be greatly reduced in Alternative D and be reflected in the broad based soil erosion decrease.

Prescribed grazing practices, restrictions, and projected livestock reductions that would be implemented in Alternative D would result in improved overall watershed condition (particularly low elevation uplands and all riparian areas) and streambank stability. A decrease in the following impacts would occur: soil compaction, soil disturbance, streambank disturbance, cryptogamic crust disturbance, and vegetative degradation. Increased biodiversity, soil productivity, and watershed function would occur.

Impacts on the soil resource in the form of soil erosion, loss of productivity, and soil compaction from off-highway motorized vehicle (OHMV) activities would decrease in Alternative D. This would be due to changing much of the area from an "Open" designation to a Limited - Level 4 or Limited - Level 5 designation which would eliminate all cross-country OHMV activity within the area with the exception of special, permitted events which may be approved on a site-specific basis. This would be especially beneficial in the Owyhee mountains, South Mountain and Juniper Mountain area where OHMV activity is rapidly increasing. In the Owyhee Front area the closure of the Hemingway Butte area and the Nov. to April closure of the remaining areas would have a beneficial affect on the soil resource. Impacts (as projected for Alternative A and D) would decrease as use levels decrease. Where OHMV use is allowed it would cause mechanical disturbance to the soil surface and destruction of the protective vegetative cover (this includes vascular plants and soil stabilizing cryptogamic crusts). Mechanical disturbance from OHMV activities would result in destruction of soil aggregates, formation of channels, and a sloughing of washes. More heavily utilized trails would widen and become more deeply moguled and rutted as use levels increase.

Fluid mineral and locatable mineral activities would have far less impact on the soil resource in Alternative D compared to the other alternatives. The following would be withdrawn from mineral entry, fluid mineral development and mineral material disposal: all SRMAs, ACECs, the SRBOPNCA (by Public Law 103-64), and Section 202 study lands; all WSAs and future designated wilderness lands; all eligible and future designated Wild, Scenic, or Recreational Rivers and their corridors; all designated national rivers; all known important paleontological and cultural resource sites; and all areas where special status species might be adversely impacted. This would total at least 807,735 acres. Other limiting measures are associated with wildlife, special status species, and riparian areas. This would preclude any impacts on the soil resource associated with these activities (as described in Alternative A) in and around these areas.

Right-of-ways would cause varying degrees of disturbance in the resource area. No significant impact on soils is projected from construction of pipelines, powerlines and telephone lines after construction is finished. Roads, especially unsurfaced roads, would cause both short and long-term erosion problems.

Vegetation treatments are projected on an estimated 81,400 acres (prescribed burning, 64,400 acres; and woodland harvest, 17,000 acres) according to established standards and the Owyhee Juniper Woodland Management Plan in Alternative D. Prescribed fire would be the major treatment method used. The other treatment method would be chemical treatment. Mechanical treatments would not be done. The projected acreage for chemical treatment is about 6,440 acres over the next 20 years. Sagebrush treatment would occur on 34,100 acres. Seedings would not occur. Vegetation treatments would cause varying degrees of disturbance in the resource area. This would depend on the type and size of the treatment (and, over the long term, the success). By following established BMPs, impacts from these treatments would be reduced. Soil erosion and subsequent sediment delivery and loss of productivity would be a short-term impact. After revegetation occurs a long-term reduction in erosion rates could occur.

Conclusion

The overall impact of Alternative D on the soil resource would be beneficial. Broad based erosion levels would decrease. Streambanks would show an upward recovery trend.

Meeting the Objectives

Objective SOIL 1: Improve unsatisfactory and maintain satisfactory watershed condition on lands above 3,500 feet elevation.

It is estimated that this objective would be met on over 80% of the resource area in Alternative D.

Objective SOIL 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

This objective would be met on an estimated 50% to 65% of the resource area in Alternative D.

Objective SOIL 3: Achieve stabilization of specific localized soil erosion problems (particularly streambanks). Reduce the potential for accelerated (human induced) erosion problems by utilizing Best Management Practices (BMPs).

It is estimated that this objective would be met for 50% to 70% of the cases in the resource area. Human induced erosion problems would be reduced only with the establishment of, and compliance with, BMPs in Alternative D.

WATER RESOURCES

Change Agents

Livestock grazing, mining activities, OHMV use and prescribed burning.

Impact Analysis

Implementation of the July 15 end-of-grazing-season constraint in all riparian pastures without an approved and implemented grazing system, an 84,210 (62%) AUM reduction in grazing over a 20-year period, and implementation of intensive grazing systems would result in short-term and long-term improvement in riparian condition. Over 20 years, as riparian condition improves, 90% of all stream miles throughout the resource would achieve satisfactory or proper functioning condition. Water quality would improve to fully support designated uses on these streams in Alternative D.

Nonpoint source mining impacts on water quality would the same as described in Alternative A. Nonpoint source impacts from historic mining activities would not change from the current level.

Point source mining impacts on water quality would be same as described in Alternative A. Impacts from historic mining activities would not change from the current level.

Adverse OHMV impacts on water quality would decrease in Alternative D. The type of impact would be the same as described for Alternative A. The number of acres with few limitations on OHMV use would decrease by about 21% over Alternative A. About 26% of the resource area would be closed to OHMV use. Impacts would occur primarily along the Owyhee Front, but would expand to the southern portion of the resource area over 20 years.

Water quality impacts from prescribed burns would be of the same type as those described in Alternative A. Prescribed burns would be limited to a maximum of 9,000 acres annually with about 64,400 acres burned over the next 20 years. This would be a 47% decrease from Alternative A.

Water rights would be obtained on all water development projects and protests filed on all water right applications by private individuals which would conflict with Bureau water rights or the Bureau's mission. Minimum streamflow applications would be filed on high value streams.

Conclusion

Water quality would improve as a significant reduction in hot season grazing occurs on the majority of stream miles. Designated beneficial uses would be fully supported on 90% of all stream miles over a 20-year period.

Meeting the Objectives

Objective: WATR 1: Meet or exceed State of Idaho water quality standards on all Federally administered waters within the Owyhee Resource Area.

This objective would be met on 90% of the total stream miles in Alternative D. Area wide, the most common pollutant is warm water temperature. Elimination of hot season livestock grazing would allow riparian vegetation structure to change. These changes would result in more stream shading and cooler water temperatures.

Objective: WATR 2: Follow current State water rights processes and procedures to acquire water rights for beneficial uses and support establishment of instream flows which are in the public interest. File for water use rights on all unclaimed waters within one year and newly developed water projects prior to construction.

In Alternative D, water uses on all streams would be provided for through compliance with State water law and in accordance with State licensing processes.

VEGETATION

Change Agents

Vegetation treatments, mining activities, OHMV activities and adjustments in livestock grazing.

Impact Analysis

When any species or class of vegetation is allowed to dominate a large area, ecological diversity, forage production, and plant vigor will be adversely impacted. At the same time if one species or class of vegetation is eliminated or substantially reduced over a large area similar impacts could be projected. Prescribed burning and juniper woodcuts are tools for treating vegetation to maintain the proper mix of communities within a given area. In Alternative D a total of 47,300 acres of juniper and 34,100 acres of sagebrush have been identified for treatment.

Short-term impacts (2-3 years) from prescribed burns (64,400 acres) and juniper woodcuts (17,000 acres) would be adverse as vegetative structural diversity is decreased by reducing or eliminating the predominant species (sagebrush or juniper) at each site. Long-term impacts would be beneficial by improving ecological diversity, ecological site condition, forage production, and plant vigor of these selected areas as understory vegetation communities become restored.

Beneficial impacts are projected for forest land biodiversity by retaining 32,600 acres of remnant Douglas-fir forests within the resource area.

Noxious weed control would have a slight beneficial effect on vegetative diversity by maintaining the integrity of native plant communities by reducing or eliminating undesirable species. Beneficial impacts, through noxious weed control, are also projected in those areas where OHV use occurs. OHV activity has the potential to remove vegetation which then allows noxious weeds to become established at those sites.

Mineral activities have the potential for adverse impacts on vegetation on a site specific basis. Impacts would be in the form of short-term and long-term habitat loss at exploration and mining locations. Refer to the Stone Cabin Mine EIS for a detailed analysis of mining impacts.

In Alternative D about 190 miles of existing trails and sand washes would be closed to OHMV activity. By closing these 190 miles, beneficial impacts are projected as native vegetation would be allowed to reestablish within these closed areas. Of this figure 50 miles are located within the Hemingway Butte area, which annually receives considerable OHMV use. By closing this area to OHMV activity and by closing the Hemingway Butte Recreation OHMV trailhead, beneficial impacts on vegetation are projected for this specific area.

Alternative D would also change 420,493 acres of “Open” designation to a “Limited” designation which would eliminate all cross-country OHMV activity. This would be a beneficial impact through reduced physical damage to the vegetation and reduced soil erosion.

About 70 miles of existing roads would also be closed in Alternative D. These roads would be rehabilitated with native plants in order to restore native plant communities in these disturbed areas. The level of use and associated impacts could increase at a more rapid rate in these “Limited” use areas as restrictions on OHMV use are implemented in other parts of the resource area. Staging areas for organized events have the potential to adversely impact vegetation through concentrated use within these areas. The overall impact of OHMV activities in Alternative D is projected to be beneficial, as compared to the existing situation, but only if use in the "Closed" and "Limited" areas is controlled through enforcement.

Adjustments in livestock grazing that would impact vegetation are as follows:

1) Elimination of livestock grazing by July 15, or earlier if necessary, in all pastures with riparian or wetland areas regardless of size or monitoring status.

Suspending livestock use by July 15 would provide for regrowth of riparian vegetation which would allow these areas to maintain or improve their current status. A shortened grazing season would also benefit upland vegetation by allowing for more rest or options for other grazing systems. However, grazing prior to July 15 has the potential to adversely impact native upland vegetation as livestock use would occur during the plant's active growth and food storage phase. Although most plants are sensitive to grazing during this time period, studies have shown that bluebunch wheatgrass is extremely sensitive to grazing during active growth (Anderson, 1991). This early use has the potential to prevent substantial improvement on those sites where bluebunch wheatgrass is the predominant grass species. These sites cover over 50% of the resource area. Grazing systems would be designed to mitigate these impacts through scheduled resting of pastures.

2) Elimination of livestock grazing on all allotments where 75% or more of the allotment is in an early seral stage.

Based on Table VEGE-2, Ecological Status on Public Lands, livestock grazing would be eliminated immediately on those allotments where 75% or more is in an early seral stage. This would total 226,806 acres that would be closed to livestock grazing and 24,415 AUMs unavailable for livestock use. Although beneficial impacts are projected on upland vegetation in terms of improved plant vigor, increased frequency and cover of key perennial species, and upward vegetative trend, changes in ecological condition, especially on those sites currently in an early seral stage, are not projected to significantly change within 20 years. Factors such as climate, soils, competition from other species, available sources of seed on site, livestock season-of-use, and livestock stocking levels would determine the amount of time needed to move from one condition class to the next. Even with complete livestock removal, succession can be extremely slow, sometimes requiring 20-40 years (Sanders and Voth 1983 and Tisdale, Hironaka, and Fosberg 1969).

3) Elimination of all domestic sheep grazing from public lands.

Elimination of domestic sheep grazing and the conversion of these AUMs from sheep to cattle would have little impact on vegetation within the resource area. Because cattle do not use the steeper slopes as effectively as herded sheep, key use areas preferred by cattle would receive more concentrated use. Riparian and wetland areas would also be adversely impacted as cattle tend to concentrate more in these areas than herded sheep. However these impacts would be mitigated through upland and riparian monitoring as livestock use would be reduced or eliminated in those areas where management objectives are not being met.

4) Including periods of rest during times of critical plant growth and regrowth in livestock grazing schedules.

Beneficial impacts on vegetation are projected under this action. By providing rest during times of critical growth and regrowth plants would be allowed to complete their food storage phase, replenish root reserves and produce seed. This would then allow for improved plant vigor and an upward vegetative trend overall.

5) Allowing a maximum of 30% annual forage utilization of key forage species.

Defoliation of vegetation during active growth and food storage periods (spring to early summer) has the potential for adverse impacts. Plants at this time have also only produced a portion of their total production and production figures are based on mature weights. Based on this, a 30% utilization limit, as compared to a 50% limit would have beneficial impacts by removing less vegetation during this time early time period. After plants have reached seed ripe and completed their growth and food storage phases, defoliation is not as critical. Benefits from a 30% utilization limit after seed ripe, as compared to a 50% limit, would be negligible. A total of 1,086,329 acres would be grazed at a maximum of 30% utilization.

6) Allowing a maximum of 40% annual forage utilization of key forage species where 40% or more of the allotment is in late seral and 10% or less is in an early seral stage (total of 840 acres in the Owyhee Resource Area).

Based on the limited acres involved, this action would have no impact on vegetation.

Conclusion

Overall it is projected that vegetation would be beneficially impacted in Alternative D by reducing livestock grazing within the resource area from an initial stocking level of 136,285 AUMs to 52,075 AUMs at the end of twenty years, the "Limited" OHMV designation, scheduled periods of rest, reduced utilization levels, and identified juniper treatments. Although beneficial impacts on vegetation are projected in Alternative D in terms of improved plant vigor, increased frequency and cover of key perennial species, and upward vegetative trend, changes in ecological condition, especially on those sites currently in an early seral stage, are not projected to substantially change within 20 years. Factors such as climate, soils, competition from other species, available sources of seed on site, livestock season-of-use, and livestock stocking levels would determine the amount of time needed to move from one seral stage to the nest. Even with complete livestock removal succession can be extremely slow, sometimes requiring 20-40 years (Sanders and Voth 1983 and Tisdale, Hironaka, and Fosberg 1969).

Meeting the Objectives

Objective VEGE 1: Achieve an ecological site condition (ESC) on upland habitats on Federal lands within the Jordan Creek and Owyhee River geographic reference areas and those portions of the Snake River geographic reference area above 3,500 feet elevation to at least 40% in late seral stage and no more than 10% in early seral stage (altered ecological sites such as seedings and annual range excepted).

This objective would not be met in Alternative D. The table below outlines the projected changes in ecological status for this alternative. These projected changes were based on prescribed burns and woodcuts along with reduced stocking levels and adjustments in season-of-use.

Areas above 3,500 feet elevation

Seral Stage	Baseline	Percent	20-Year Projection	Percent
Early sera	1419,771	38%	348,305	31%
Mid seral	528,729	47%	491,906	44%
Late seral	143,584	13%	251,873	23%
PNC	2,224	<1%	2,224	<1%
Seeding	18,401	2%	18,401	2%
Total	1,112,709	100%	1,112,709	100%

See Table VEGE-2 for baseline data by allotment.

Objective VEGE 2: Establish and maintain upward vegetative trend on all lands below 3,500 feet elevation draining into the Snake River (201,266 acres); raise the seral stage by one class on at least 10% of these lands. (Altered ecological sites such as seedings and annual range excepted).

By eliminating or reducing livestock on the Snake River area an upward vegetative trend is projected. However, this objective would not be met as changes in seral stages are not projected within the twenty-year time period. The table below outlines the projected changes in ecological status for Alternative D.

Area below 3,500 feet elevation

Seral Stage	Baseline	Percent	20-Year Projection	Percent
Early seral	155,215	77%	155,215	77%
Mid seral	36,664	18%	36,664	18%
Late seral	0	0%	0	0%
PNC	0	0%	0	0%
Seeding	9,387	5%	9,387	5%
Total	201,266	100%	201,266	100%

Objective FORS 1: Manage Douglas-fir communities (about 36,200 acres) to emphasize forest health, vegetative diversity, wildlife and watershed values.

Alternative D would meet the objective of retaining forest land biodiversity and recognizes the value of dead material for the overall ecological health of forest environments.

Objective FORS 2: Use juniper harvesting to help achieve a desired plant community.

Alternative D would not meet the objective of achieving desired plant communities in the resource area by controlling juniper as only 17,000 acres have been identified for woodland harvest within 20 years. This is about 7% of the total acres of juniper located on Federal lands. In order to meet this objective a more aggressive program is needed to reduce both existing and projected increased juniper woodland acreage. There would not be enough public demand for juniper fuelwood in the foreseeable future to increase the current rate of commercial harvest operations.

RIPARIAN-WETLAND AREAS

Change Agents

Livestock grazing, mining activities and OHMV use.

Impact Analysis

Implementation of the July 15 end-of-grazing-season constraint in all riparian pastures without an approved and implemented grazing system, an 84,210 (62%) AUM reduction in grazing over a 20-year period, and implementation of intensive grazing systems would result in both short-term and long-term improvement in riparian condition. Over 20 years, 90% of all riparian miles throughout the resource would achieve satisfactory or proper functioning condition in Alternative D.

Nonpoint source mining impacts on riparian areas would be the same as described in Alternative A. Nonpoint source impacts from historic mining operations would continue at the current level.

Adverse OHMV impacts on riparian areas would decrease in Alternative D. The type of impact would be the same as described for Alternative A. The number of acres with few limitations on OHMV use would decrease by about 21% over Alternative A. About 26% of the resource area would be closed to OHMV use. Adverse impacts would occur primarily along the Owyhee Front, but would expand to the southern portion of the resource area over 20 years.

Land tenure adjustments to consolidate public lands would generally benefit riparian values. Newly acquired lands with riparian/aquatic values would be managed with special land use restrictions which benefit these values.

Conclusion

A reduction in hot season grazing would result in improved riparian condition. Major improvement would occur in woody vegetation communities. The impact of grazing management on riparian areas is shown below.

Riparian Areas (miles)	Baseline	Alt D
Satisfactory condition	35	587
Unsatisfactory condition	239	65
Undetermined	378	0

Meeting the Objectives

Objective: RIPN 1: Improve all unsatisfactory, nonfunctioning and functional-at risk categories and maintain all satisfactory and proper functioning condition riparian lands (stream, upland wet meadow, and wetlands).

This objective would be met on 90% of all riparian miles in Alternative D. Elimination of hot season grazing would result in improved riparian habitat condition by allowing riparian vegetation to establish and improve in composition, vigor, density and structure. The resulting riparian zone would be more efficient in its buffering and filtering functions.

WILDLIFE HABITAT

Change Agents

Livestock grazing, livestock management facilities, vegetation treatments, mining activities, OHMV activities, other recreation use, national river designations, ACEC designations, VRM designations, wildlife projects, land tenure adjustments and land use authorizations.

Impact Analysis

Alternative D would result in substantial reductions in livestock grazing levels and a shift to early season grazing throughout most of the resource area. A 62% reduction in active grazing preference to 52,113 AUMs would result from the combined effects of eliminating livestock grazing from some ACECs, all areas in PNC, all allotments where 75% or more is in early seral stage, all pastures containing riparian areas displaying moderate to severe bank stabilization problems and elimination of grazing after July 15 in all pastures with any riparian habitat. This reduction in livestock grazing levels and elimination of nearly all mid and late season grazing would result in a rapid improvement of riparian habitats and more gradual improvement in upland habitats. Benefits to wildlife would include increased quality and quantity of forage, cover and water within most riparian and upland habitats, especially during the typically stressful late summer season. Livestock utilization of bitterbrush and other browse species would decrease significantly since most livestock use of browse typically occurs during mid-to-late summer after herbaceous species have cured and become less palatable. In areas of past heavy browse use by livestock, lighter use would result in increased browse vigor and forage availability for big game species, in the short term. In the long term, shrub species are generally projected to decrease as ecological condition advances and as fire frequency and acreage increases due to the increasing volume of ungrazed fine fuels. The transition to a later seral stage could result in a gradual decline in deer, sage grouse and a diversity of other wildlife species which are closely tied to shrub-dominated habitats, although, this could be partially or entirely offset by increases in plant species diversity and forage availability. It is also projected to result in an increase in the number of pronghorn, bighorn sheep and other species which are better adapted to more open habitats with a lesser shrub component. This is a broad generalization however, and any major shifts in wildlife habitats or populations would depend upon a variety of factors including, climatic factors, fire frequency and the level of fire suppression.

Some adverse impacts would continue to result from the shift to early season grazing, where permitted. These would include competition for early season forage; disturbance and reduced cover within deer, elk and pronghorn fawning habitats and waterfowl, sage grouse and nongame bird nesting and brood-rearing habitats and continued early season disturbance of some riparian/aquatic habitats.

A combination of prescribed burning and woodcutting would be employed to eliminate an estimated 35,200 acres of juniper woodland habitat (15,200 acres less than Alternative A) and 20,500 acres of sagebrush habitat (19,100 acres less than Alternative A). The types of impacts from juniper and shrub treatments would be similar to those projected for Alternative A except that treatment areas would recover more quickly because of the extended three full years of rest following treatment prior to resuming livestock grazing and substantially reduced livestock use levels. The overall, long-term impacts of vegetation treatments are projected to be mostly beneficial, although, short-term and even long-term impacts on some species would be adverse. See Alternative A for detailed analysis.

In Alternative D a total of more than 807,000 acres of public land would be withdrawn from mineral entry and closed to mineral materials sales and fluid minerals leasing. This is nearly 600,000 acres or 300% more than was prescribed for protection in Alternatives A and could potentially result in substantially less disturbance to wildlife habitat although most areas with known high to moderate mineral potential would continue to be open for mineral extraction. The types of disturbance and associated adverse impacts on wildlife within these open areas would be about the same as identified in Alternative A.

In Alternative D about 190 miles of motorcycle trails and sand washes and 70 miles of roads would be closed. All road closures would occur in the south half of the resource area within the Owyhee Canyonlands SRMA and should result in some benefits to big game and other species primarily by restricting vehicle access during the hunting season. Fifty miles of the trail/sand wash closures would occur within a 4,000 acre area near the Hemingway Butte trail head with the remaining 140 miles of closure occurring elsewhere within the Owyhee Front SRMA including all trails and sand washes east of Highway 78. The designations within the Owyhee Front SRMA would reduce disturbance to wintering and yearlong pronghorn, wintering deer, breeding and nesting sage grouse and a large diversity of other game and nongame species. The most dramatic habitat improvement, primarily for nongame species, should take place within and adjacent to the heavily impacted Hemingway Butte trailhead area. As trails and sand washes are closed in this and other parts of the Owyhee Front SRMA, beneficial changes should include reestablishment of vegetation within closed trails resulting in improved forage and cover for a diversity of species, and elimination of OHMV disturbance of wildlife in the vicinity of closed trails and sand washes. Alternative D would also result in the changing 420,493 acres of "Open" designation primarily to a Limited - Level 2 designation in much of the north half and a Level 5 designation in the south half of the resource area which would eliminate all cross-country OHMV activity. This would result in reduced physical damage to wildlife habitat throughout the resource area and, more significantly, reduced wildlife disturbance by OHMVs, especially during hunting seasons.

The overall impacts of the prescribed OHMV actions in Alternative D are projected to be beneficial when compared to the current situation, however it is projected that adverse impacts on most wildlife habitats and populations would continue to increase as a result of increasing use levels and an inadequate number of personnel to enforce OHMV regulations, especially within the Owyhee Front SRMA.

Other recreation program management actions in Alternative D include construction of the Guffey Butte and Jump Creek nonmotorized trails, establishment of two equestrian trailheads, upgrading or reconstructing facilities at seven recreational facilities and construction of seven additional recreation sites. Human activity on the Guffey Butte trail, designed to redirect current and projected increased use around Guffey Butte at a lower elevation, could result in disturbance to a diversity of raptor species nesting on the butte including golden eagles, prairie falcons and ferruginous hawks. Initial development of Celebration Park has already resulted in a noticeable increase in hiking activity on Guffey Butte during the nesting season and with development of this trail, the level of use would increase dramatically. This could lead to nest failures or total abandonment of this area by some or all nesting raptors including ferruginous hawks.

Construction of the Jump Creek trail would also increase recreation use of Jump Creek Canyon resulting in increased disturbance to cliff-nesting raptors and a large diversity of other species associated with canyon/riparian habitats. Currently, much of the upper canyon is nearly inaccessible and relatively undisturbed. Both short-term and long-term impacts of these trails is projected to be adverse.

Establishment of two equestrian trailheads would result in increased levels of horseback riding and camping use within the Owyhee Mountains. This would result in deterioration of habitat along the trails and camp sites and some disturbance to wildlife within the immediate vicinity of trail and camps. Overall short-term and long-term impacts from trailhead establishment are projected to be slightly adverse.

Upgrading of existing and construction of additional recreational facilities would result in additional human disturbance of wildlife populations and habitats in the vicinity of these facilities. This could result in fewer numbers of those species that are especially sensitive to human activities while having no effect or even a beneficial impact on others. Overall impacts on most species is projected to be adverse but should be restricted to a relatively small area within close proximity to the facilities.

In Alternative D a total of 223 miles of eligible rivers and streams would be recommended as suitable for wild, scenic or recreational river designation. This is 129 more miles than recommend in Alternative A and would result in these additional river/stream miles protected from impacting activities. Designated rivers and streams would be closed to all OHMV activity with the exception of designated crossings result in long-term protection of aquatic, riparian and canyon habitats and dependant wildlife species. They would be withdrawn from mineral entry and closed to mineral materials sales and fluid minerals leasing. It would preclude any impacts on wildlife or wildlife habitat associated with these activities. Both short-term and long-term impacts are projected to be beneficial.

ACEC designations and special management including (elimination of most surface disturbing activities) on 291,868 acres would have a mostly beneficial impact on wildlife. Elimination of livestock grazing and livestock management facilities within identified ACECs should result in increased forage availability and improved habitat conditions for most species within these ACECs, although, resultant long-term changes in vegetation would result in shifts in wildlife populations as previously described. Withdrawal of all ACECs from mineral entry and closure to materials sales and fluid minerals leasing, closure to most OHMV activity and exclusion or avoidance to rights-of-ways would prevent loss and disturbance of habitat and populations from these activities. Conversely, restrictions on juniper woodcutting and burning could result in a loss of forage and habitat for many species unless the occurrence of naturally occurring fires increases substantially. If juniper density and cover continues to increase within these ACECs understory vegetation and associated wildlife species diversity and carrying capacity for most species would also decline. See Table ACEC-D for specific constraints.

The large increase in designated VRM Class 1 acreage in the south half of the resource area would also result in strict limitations in prescribed burning and elimination of juniper woodcuts within these Class 1 Areas. As with similar ACEC restrictions this would result in mostly adverse impacts on wildlife unless the occurrence of naturally occurring fires increased substantially. Beneficial impacts of increased Class 1 designation would be the elimination of all surface disturbing activities which would normally result in disturbance or loss of wildlife habitat and populations.

Impacts of wildlife water developments, nesting structures and islands would be the same as for Alternative A. The lack of habitat exclosures identified in Alternative D would result in less disturbance and fewer impediments to wildlife movement. It may also result in slower improvement and less overall improvement of 137 miles of mostly riparian habitats that would have received total exclusion from grazing in Alternative A but this should be largely offset by the large reductions in livestock use levels and seasons of use and improved livestock management. Short-term and long-term impacts of these actions would be beneficial.

Impacts of land tenure adjustments would be essentially the same as those projected for Alternative A.

Adverse impacts of land use authorizations could be substantially less than those projected for Alternative A. The exclusion of new rights-of-ways within ACECs, SRMAs, crucial wildlife habitats and wild horse areas would protect these areas from the types of disturbance associated with these actions. Rights-of-ways, leases and permits would continue to have a net adverse impact on wildlife in unrestricted areas as habitat is dedicated to other uses.

Conclusion

The overall impact of Alternative D is projected to be beneficial for most species primarily based upon the substantial reduction in and restrictions place on livestock grazing and construction of livestock management facilities. Riparian/wetland habitats would experience the most significant and rapid improvement which would benefit a large diversity of wildlife species via increased quantity and quality of food, cover and water. Other management actions that would benefit wildlife include the substantial reduction in acreage open to mining, materials sales and fluid minerals leasing; more restrictive OHMV management throughout most of the resource area, national river, ACEC and Class 1 visual designations which result in restrictions on surface disturbing activities; and development of wildlife habitat projects. Adverse impacts associated with Alternative D would include additional recreation facility development and expansion resulting in increased human disturbance to wildlife populations and habitats; and the restrictions placed on juniper woodcutting and burning by various designations which could result in deteriorating habitat for some species. In the long term, uplands, with the exception of woodland habitats, would slowly shift to a later ecological stage resulting in a concurrent shift in wildlife species composition reflective of a more open landscape with less tree and shrub cover and more grasslands.

Meeting the Objectives

Objective WDLF 1: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of big game species within the Owyhee Resource Area including 1,246,000 acres of mule deer habitat, 50,000 + acres of elk habitat and 819,000 acres of pronghorn habitat.

This objective would be met. Major contributing change agents would include major reductions in AUMs and length of the grazing season and significant reduction in big game habitat open to grazing, mining, OHMV and other surface disturbing activities and creation of additional roadless area through road closure within SRMAs. Other benefits would be derived from additional wildlife water development, and some land tenure adjustments. Generally, as most ecological sites within the resource area advance toward a later seral stage the upland shrub component would decline. This would, in some cases, have a long-term adverse impact on deer populations which are closely tied to shrub-dominated habitats. Although, dramatically reduced livestock AUMs and suspension of livestock grazing after July 15 could compensate for reduced shrub density and cover by resulting in reduced livestock competition for forage and cover, especially after July 15. It should also result in an increase in plant species diversity and production of palatable forbs. The gradual shift to a later seral state would generally favor pronghorn, elk and bighorn sheep.

Objective WDLF 2: Maintain satisfactory and improve unsatisfactory habitat to sustain desirable populations of upland game including 904,000 acres of sage grouse habitat, 547,000 acres of chukar habitat and 29,000 acres of pheasant habitat.

This objective would be met for most, if not all, upland game species. The major contributing change agent would be the shortened livestock grazing season, total exclusion of livestock from several hundred miles of riparian habitat, reductions in allocated AUMs and large areas of public land completely closed to most surface disturbing activities through special designations. This would lead to rapid improvement of riparian habitat which is a key habitat type for most upland game species. Upland habitats should also steadily improve. Other benefiting actions would include development of wildlife waters, development of additional cooperative farming agreements; more restrictive OHMV regulations and some land tenure adjustments. The projected shift to a later vegetation seral state could result in a substantial long-term loss of big sagebrush which is projected to result in reduced distribution and abundance of sage grouse. This would be offset, at least partially, by the improvement in wet meadow and upland brood-rearing habitats and increased nesting cover provided by bunchgrasses and other herbaceous vegetation resulting from more restrictive livestock grazing.

Objective WDLF 3: Maintain satisfactory and improve unsatisfactory riparian/wetland habitat for waterfowl, furbearers and a diversity of other game and nongame species.

This objective would be met. Under this alternative riparian habitat would improve very rapidly. It is estimated that 90% (587 miles) of stream riparian habitat would be in satisfactory condition within 5 years as compared to only 15% (101 miles) under Alternative A. After 20 years it is estimated that habitat in satisfactory condition would still be about 90%, a 77% increase over current conditions and 58% improvement over alternative A. The primary change agent would be the shortened grazing season in all pastures containing riparian habitat, reductions in licensed AUMs and closure of large areas to surface disturbing activities through special designations. Other benefitting actions include more restrictive OHMV regulations and some land tenure adjustments. Refer to the Riparian and Fisheries sections for more specific analysis.

Objective WDLF 4: Maintain satisfactory and improve unsatisfactory habitat for a large diversity of nongame wildlife on 1.3 million acres.

This objective would be met. Because of the large diversity of nongame wildlife with widely differing habitat requirements, any action is likely to benefit certain species while adversely effecting others. The only way to insure that all species and their habitats are adequately protected is to maintain all native vegetation communities in various seral stages. Alternative D should maintain sufficient habitat diversity to insure the continued existence of all native species currently found within the resource area. Improvement of riparian/wetland habitat would have the most profound beneficial influence on nongame species because it supports the highest number and diversity of wildlife species and contains crucial habitat components for the majority of species within the resource area. Other benefitting actions would include protection of large areas of habitat from surface disturbing activities through special designations, development of wildlife water projects, more restrictive OHMV regulations, some vegetation treatments and some land tenure adjustments. As the size and frequency of natural burns increase and habitats move towards a later seral stage there would be a concurrent shift in nongame species composition to a mix better adapted to a more open landscape with a lower percentage of woody species. The exception would be where seral juniper stands are untreated and understory vegetation (fine fuels) is reduced to the point that natural fires would not occur.

FISHERY HABITAT

Change Agents

Livestock grazing, mining activities, OHMV use and prescribed burning.

Impact Analysis

Implementation of the July 15 end-of-grazing-season constraint in all riparian pastures without an approved and implemented grazing system, an 84,210 (62%) AUM reduction in grazing over a 20-year period, and implementation of intensive grazing systems would result in both short-term and long-term improvement in riparian condition. Over 20 years, as riparian condition improves, 90% of all stream miles would achieve satisfactory fish habitat condition. Changes in streambanks and woody vegetation structure would result in long-term improvement in fish habitat condition and aquatic species biodiversity.

Nonpoint source mining impacts on aquatic ecosystems would be the same as described in Alternative A. Nonpoint source mining impacts would not change from current levels.

Point source impacts on fish communities and biodiversity from mining would be the same as described in Alternative A. Point source mining impacts would not change from current levels.

Adverse OHMV impacts on fish communities and aquatic biodiversity would be of the same type as described for Alternative A. The number of acres with few limitations on OHMV use would decrease by about 21% over Alternative A. About 26% of the resource area would be closed to OHMV use. Adverse impacts would occur primarily along the Owyhee Front, but would expand to the southern portion of the resource area over 20 years.

Impacts on fisheries habitat from prescribed burns would be of the same type as those described in Alternative A. Prescribed burns would be limited to a maximum of 9,000 acres annually with about 64,400 acres burned over the next 20 years. This would be a 47% decrease from Alternative A.

Land tenure adjustments to consolidate public lands would generally benefit aquatic resource values. Newly acquired lands with aquatic values would be managed with special land use restrictions which benefit these values.

Conclusion

Effects on native fish communities and aquatic biodiversity would be beneficial. The condition of aquatic species habitat would improve over the short term and long term. The impact of grazing management on fish habitat, native fish communities, and aquatic biodiversity is shown below.

Fish Habitat (miles)	Baseline	Alt D
Satisfactory condition	42	460
Unsatisfactory condition	469	51

Meeting the Objectives

Objective: FISH 1: Improve unsatisfactory condition and maintain satisfactory condition habitat to support native fish so that all perennial streams are in satisfactory condition in twenty years.

This objective would be met on 90% of all stream miles in Alternative D. Elimination of hot season grazing would result in improvement in the vegetative component of riparian areas. This would help offset the adverse impacts that early season grazing would have along streams and impacts from other surface disturbing activities such as OHMVs, mining, and prescribed burns.

Objective: FISH 2: Improve reservoir fisheries when appropriate, in consultation with State agencies and adjacent landowners.

This objective would be fully met on the majority of reservoirs in Alternative D.

SPECIAL STATUS SPECIES

Special Status Plants

Change Agents

OHMV activities, livestock grazing, mining activities, vegetation treatments, livestock water developments, fencing, recreation use, land use authorizations, land tenure adjustments, plant collecting, ACEC designations and national river designations.

Impact Analysis

About 190 miles of trails and sand washes and 70 miles of roads would be closed to OHMV use in Alternative D, compared with no closures in Alternative A. The trail/wash closures could have a substantial beneficial impact on numerous special status plant species. Beneficial impacts would be in the form of protection from future habitat disturbance and habitat rehabilitation. Species that would be beneficially impacted include Mulford's milkvetch, Cusick's false yarrow, annual brittlebrush, Malheur yellow phacelia, white eatonella, rigid threadbush, Janish's penstemon, white-margined wax plant, and Snake River milkvetch.

OHMV "Closure" on 338,974 acres and changing 420,493 acres of "Open" designation to Limited - Level 2 and some Level 5 and Level 7 designations in the north half of the resource area and a Level 5 designation in the south half, would eliminate all cross-country OHMV activity. This would result in reduced physical damage to special status plant habitats throughout the resource area. While the overall impacts of the prescribed OHMV actions in Alternative D are projected to be beneficial, it would depend on adequate enforcement of OHMV regulations.

Dramatic reductions in livestock grazing levels and conversion to early season grazing prescribed in Alternative D is projected to have an overall beneficial impact on special status plants. As upland and riparian plant communities advance their ecological condition under the lowered stocking rates, populations of associated special status plants are projected to stabilize and some could potentially increase. Benefits to special status plants would result from reduced levels of herbivory and trampling, the lowered threat of exotic plant species competition and introductions, and improved resource availability (e.g. water, nutrients). While the effects of livestock grazing on most special status plants is poorly known, because these species did not evolve with livestock, it can be assumed that less grazing use and a trend towards the potential natural community would benefit these species overall.

The impact of mining activities on special status plants would be substantially less than in Alternative A because of the increased acreage prescribed for withdrawal and closed to material sales and fluid minerals leasing. Species that would benefit include dimersia, white eatonella, and dwarf skullcap. However, the Snake River geographic reference area, an area of moderate to high mineral potential and high numbers of special status plant occurrences, would remain largely open for extraction, and impacts on plant populations and habitats would be similar to those in Alternative A. Impacts would primarily be in the form of loss of habitat and direct destruction of individuals and populations with the extent of impacts generally determined by the amount of activity. These impacts would be adverse.

In Alternative D, a total of 47,300 acres of juniper woodland would be treated, including 34,100 acres of burn (25,400 acres less than Alternative A) and 17,000 acres of woodcut (same as Alternative A). Potential adverse impacts on the three special status plants (Osgood Mountains milkvetch, dimersia, white eatonella) that could occur in juniper habitat would be the same as described in Alternative A. Any short-term adverse impacts would be less severe and shorter in duration because of the extended 3 years rest prior to livestock grazing following treatment and dramatically reduced grazing levels. It is currently unknown what the impact of continuing juniper invasion would have on these species, but it is possible that the habitat would become unsuitable for them due to the increase in the juniper overstory.

Sagebrush treatments in Alternative D are identified on 34,100 acres, 31,800 acres less than in Alternative A. Impacts on special status plants would be similar to those projected in Alternative A, but on fewer acres. It is projected that Alternative D would result in less potential direct and indirect adverse impacts on special status plants and their habitat. While fire may have been necessary historically to maintain some species of special status plants and their habitats, it is difficult to project the impact of prescribed fire on these species today, given the pervasiveness of exotic plant species and the influence they have had on the natural fire regime. It is possible that reducing fire suppression efforts could have an adverse impact on some special status species, primarily due to weed invasion, while it may benefit others.

In Alternative D, 13 wildlife water developments are identified for construction. No pipelines, spring developments or reservoirs would be constructed. Alternative D would have an overall beneficial impact on special status plants, as the procedure of redistributing livestock into previously little used areas via new water developments would be discontinued. The risk of direct adverse impacts would be minimized due to the low number of projects identified. It is possible that in some cases special status plants would be adversely impacted by not redistributing livestock, if the lack of development serves to concentrate livestock in the vicinity of rare plant populations.

In Alternative D, no riparian exclosure or pasture fences would be constructed. Development of new trails along fences and concentrating of livestock in previously unused areas would not occur, but fences could still be constructed if a resource conflict is identified and fencing would alleviate the conflict. In Alternative D, the lack of fence construction (combined with dramatic reductions in livestock grazing levels and changes in seasons-of-use) would have an overall beneficial impact on special status plants.

Upgrading recreational facilities at seven sites and developing a minimum of four new recreational sites would result in increased use and associated human disturbance at these and adjacent areas. The potential for adverse impacts on special status plants in Alternative D would be slightly greater than in Alternative A, as a larger area would be affected. The potential for special status plants to be adversely impacted at trailheads and recreation sites is low because of the field exam procedure required prior to any development. However, long-term adverse impacts on adjacent unsurveyed areas are projected as increased use would cause deterioration of habitat and result in the spread of exotic plants into native habitat, including the habitat of special status plants.

The overall impact from land use authorizations on special status plants would be the same as for Alternative A. Prior to approval and issuance of any right-of-way, lease, or permit, site examinations for special status plants would be conducted. While adverse impacts could occur if examinations were done at an inappropriate time of year, generally there would be no direct impact. However, because land use authorizations could result in substantial surface disturbance, special status plants could be indirectly impacted by fragmentation of the overall habitat and the introduction of exotic species into disturbed areas.

Land tenure adjustments would have the same impact on special status plants as those projected for Alternative A. Adjustments would generally be beneficial due to the Bureau's policy on disposal of special status species. Most adjustments result in acquisition of high quality habitat or other significant biological resources, including special status species. Many of these adjustments also result in the consolidation of public ownership in ACECs, WSAs, and national river corridors, where special status species management capabilities are more favorable.

The impacts on special status plant species from plant collecting would be the same as those projected for Alternative A. Impacts could be slightly adverse over the long term. While plant collecting on public lands in Idaho is perceived to be minimal at the present time, increasing human population would put additional pressures on all resources. Enforcement and education are the only mechanisms for preventing these impacts. The principle species that would likely be affected include Simpson's hedgehog cactus and cushion cactus.

Designation of 19 areas as ACECs (including RNAs and ONAs) would have a long-term beneficial impact on special status plant species, with numerous plant populations given special management protection within the boundaries of those designated areas.

A total of 223 miles of eligible rivers and streams would be recommended as suitable for wild, scenic or recreational river designation in Alternative D. This is 129 more miles than in alternative A. This would result in closure of these reaches to most adverse activities including OHMV activity and mineral extraction, which could benefit rattlesnake stickseed, Simpson's hedgehog cactus, dwarf skullcap, dimersia, and white eatonella. Short- and long-term impacts would generally be beneficial, although localized adverse impacts could result due to the increase in recreational activity.

Conclusion

The overall impact of Alternative D is projected to be beneficial for most special status plant species. Management actions that would benefit special status plants include the designation or expansion of 19 areas as ACECs; the greater number of miles recommended for national river designations; the increased acreage prescribed for withdrawal and closed to material sales and fluid minerals leasing; significant reductions in livestock grazing; and the reduced acreages identified for vegetation treatment, which includes no sagebrush removal. Adverse impacts would continue as a result of the development of new and expansion of existing recreational facilities, and the Level 2 OHMV designation in the Snake River geographic reference area.

Meeting the Objectives

Objective SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

As discussed in Alternative A, the lack of baseline inventory and monitoring data for most special status plants makes it difficult to accurately project impacts from the management actions prescribed in Alternative D. However, the prescribed management in Alternative D and its substantial restrictions on most land use activities would have a beneficial impact overall and would facilitate meeting the objective for most special status plants.

Special Status Animals

Change Agents

Livestock grazing, livestock management facilities, vegetation treatments, mining activities, OHMV activities, other recreation use, national river designations, ACEC designations, VRM designations, wildlife projects, land tenure adjustments, land use authorizations and species reintroductions.

Impact Analysis

Alternative D would result in reductions in livestock grazing levels and a shift to early season grazing within most allotments and pastures. This is expected to result in rapid improvement of riparian special status species habitats with an estimated 90% (587 miles) being in satisfactory condition after only five years. This is 74% more than is expected to improve under Alternative A within the same time frame. The amount of riparian habitat in satisfactory condition is expected to remain at about 90% after twenty years which will still amount to a 58% improvement over Alternative A. Improvement in most upland and riparian special status animal species habitats. It is estimated that an additional 77% (503 miles) of riparian habitat will improve from unsatisfactory to satisfactory condition within the life of this plan. Benefits should include increased quality and quantity of late season forage, cover and water within all riparian and upland habitats currently being adversely impacted by livestock grazing. In the long term, shrub species are generally projected to decrease as ecological condition advances and as fire frequency and acreage increases due to the increasing volume of ungrazed fine fuels. The transition to a later seral stage could result in a gradual decline in habitat for pygmy rabbit as upland shrub species decline but would enhance habitat for most other special status animal species. This is a broad generalization, however, and the extent of any major shifts in the shrub component would depend upon a variety of factors including weather patterns, fire frequency and the level of fire suppression.

Elimination of all domestic sheep grazing on public lands (within the resource area) could have a very substantial impact on California bighorn sheep populations both within the resource area and in adjoining Resource Areas, Districts and States. By minimizing the potential for contact between domestic sheep and bighorn sheep the chance of transmitting disease(s) which could lead to a major bighorn sheep dieoff is also minimized.

Some adverse impacts would continue to result from early season grazing but at a much reduced level and primarily in the form of short-term disturbance to riparian species and habitats. The loss of winter or early spring grazing within long-billed curlew habitat (because of the presence of riparian habitat and uplands with 75% or greater in early seral stage in these allotments) could reduce habitat suitability for this species and either reduce or eliminate its use as nesting habitat.

No livestock management facilities or habitat exclosures would be constructed in Alternative D.

This would avoid any potential adverse and beneficial impacts on special status species that would be associated with these projects. Considering the drastic reduction in stocking rates, the lack of new management facilities is projected to be have a mostly beneficial impact.

The combination of woodcuts and prescribed burns would eliminated a total of 37,460 acres of juniper woodland (about 13,000 acres less than Alternative A). Prescribed burning would also eliminate an estimated 20,460 acres of shrub treatments (about 19,000 acres less than in Alternative A). This could potentially result in less pygmy rabbit habitat lost or adversely impacted although, as discussed in Alternative C, this could easily be offset by the projected increase in habitat burned by natural fires. Other Special status species are not projected to be adversely affected but the increase in open grassland habitats could improve or increase habitat for burrowing owl and long-billed curlew.

Impacts on special status species and their habitats from mining related activities could be substantially less than in Alternative A because of the increased acreage recommended for withdrawal from mineral entry and closed to materials sales and fluid minerals leasing. Most areas of moderate to high minerals potential, primarily within the northern half of the resource area, would remain open for extraction, however, and impacts on special status species, populations and habitats in this area would be essentially the same as in Alternative A.

Closure of 190 miles of trails and sand washes and 70 miles of roads in Alternative D compares with no closures in Alternative A. Fifty miles of trail/sand wash closure would occur within the vicinity of the heavily used Hemingway Butte trailhead with the remaining 140 miles occurring elsewhere within the Owyhee Front SRMA, including all trails and sand washes east of Highway 78. The trail/sand wash closures could have a substantial beneficial impact on a number of special status species including the ferruginous hawk, long-billed curlew, burrowing owl, pygmy rabbit, kit fox, ringneck snake, western ground snake and longnose snake. Beneficial impacts would be in the form of habitat rehabilitation and protection from future habitat and species disturbance. All road closures would occur within the Owyhee Canyonlands SRMA and would result in very limited or no benefits to most special status species. Alternative D would also result in converting all 420,493 acres of "Open" designation to Limited - Level 2 designation in much of the north half of the resource area and a Level 5 designation in the south half which would eliminate all cross-country OHMV activity. This would result in reduced physical damage to special status species habitats and disturbance of individual special status species and populations throughout the resource area. There would also be substantially more area closed to all OHMV activity through additional SRMA, ACEC and wild, scenic and recreational river designations in Alternative D. This would eliminate or prevent adverse OHMV impacts on most special status species within these areas.

The overall impacts of the prescribed OHMV actions in Alternative D are projected to be beneficial but would depend on adequate enforcement of OHMV regulations.

Other recreation program management actions in Alternative D include construction of the Guffey Butte and Jump Creek nonmotorized trails, establishment of two equestrian trailheads, upgrading or reconstructing facilities at seven recreational sites and construction of seven additional recreation sites. Impacts would be similar to those described for Alternative A except that additional habitat and population disturbance could occur to any special status species at or near new facilities.

In Alternative D a total of 223 miles of eligible rivers and streams would be recommended as suitable for wild, scenic or recreational river designation. This is 129 more miles than recommended in Alternative A. This would result in closure of these reaches to most impacting activities including OHMV activity and all mineral extraction which could benefit bald eagle, peregrine falcon, mountain quail, white pelican, Preble's shrew, spotted bat, Townsend's big-eared bat, western pipestrelle, California bighorn sheep, leopard frog, spotted frog, ringneck snake, redband trout and possibly others. Both short-term and long-term impacts would be beneficial.

Designation of 291,868 acres of ACEC along with prescribed elimination of most surface disturbing activities should have mostly beneficial short-term and long-term impacts on any special status species within these areas. Activities which would be eliminated include livestock grazing (only from the six smallest ACECs), woodcutting, OHMV activity, mining. The impacts of each of these have already been discussed.

The large increase in VRM Class 1 acreage in the south half of the resource area would result in additional strict limitations on prescribed burning and the elimination of juniper woodcuts in these areas. This could have either beneficial or adverse impact depending upon which special status species are present. It could result in short-term protection of habitat for pygmy rabbit but could also result in long-term loss of habitat as juniper eventually dominates these habitats, eliminating most understory vegetation. Class 1 designation would also eliminate or severely restrict most other surface disturbing activities which should benefit most special status species.

Construction of wildlife water developments and nesting islands and structures would be the same as described in Alternative A. Both the short-term and long-term impacts of these actions would be beneficial.

Land tenure adjustments through purchase or State or private exchange would have a net beneficial short-term and long-term impact on most special status species. Most adjustments would result in acquisition of high quality habitat (including special status species habitat) and consolidate public ownership within ACECs, WSAs, national river corridors, etc. These acquired lands would normally be managed with special restrictions beneficial to special status species. Land tenure adjustments for other purposes would include special stipulations to avoid or mitigate adverse impacts on special status species.

Impacts from land use authorizations would be substantially less than those projected for Alternative A. Exclusion of new rights-of-ways and other authorizations within ACECs, SRMAs, crucial wildlife habitats and wild horse areas would protect an undetermined but substantial number of additional acres of special status species habitat from the types of disturbances associated with these actions. Rights-of-ways, leases and permits would continue to have a net adverse impact on special status animal species outside these special areas, however, as habitat is dedicated to other uses. Short-term and most long-term impacts are projected to be adverse although much less so than in the other alternatives.

Facilitating the reintroduction of peregrine falcons, mountain quail, Colombian sharptail grouse, California bighorn sheep and other special status animal species into suitable, unoccupied habitats could have a very beneficial impact on these species/subspecies. Establishment of additional viable populations could contribute to the eventual downlisting or delisting of the peregrine falcon and help prevent possible listing of others.

Establishment of additional bald eagle roost trees within bald eagle winter habitat along the Snake River would have a beneficial impact on wintering bald eagles populations by enhancing a habitat component that is currently limited.

Protection of all existing and potential goshawk nesting habitat by prohibiting the cutting or burning of all woodland habitats (excluding western juniper) would have a beneficial impact on this species by helping to ensure the continued existence of suitable nesting habitat.

Conclusion

The overall impact of Alternative D is projected to be beneficial for most special status animal species. Special status animal species associated with riparian/wetland habitats would experience the most significant and immediate benefits in response to reductions in and restrictions placed on livestock grazing. Other management actions that would benefit special status animal species include more restrictive OHMV management throughout most of the resource area; special designations and classifications, including additional national river and ACEC designations and stricter VRM classifications, that eliminate or severely restrict most surface disturbing activities; some land tenure adjustments; wildlife habitat improvement projects; protection of woodland habitats and facilitation of special status species reintroductions. Actions that could adversely impact some special status species include closing large areas to juniper woodcutting, expansion of existing recreational facilities and the development of new facilities and use areas, and disturbance associated with some land use authorizations. The increasing frequency of naturally occurring fires due to the increased volume of ungrazed or lightly grazed fine fuels could also adversely impact some species while benefitting others.

Meeting the Objectives

Objective SPSS 1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

The lack of baseline inventory and monitoring data for most special status animal species makes it difficult to determine how current management is affecting most of these species or to accurately predict to what degree these species would respond to the allocations and management actions being prescribed in Alternative D. However, based upon the substantial restrictions to be placed on many land use activities and the proactive measures being prescribed to enhance populations and habitats it is reasonable to assume that this objective would be met for most special status species. Mining, continued intensive OHMV activity and loss of shrub habitats to the projected increase in naturally occurring fires could preclude meeting the objective for some species.

WILD HORSE MANAGEMENT

Change Agents

OHMV activities, recreation use, mining activities, fencing and domestic livestock grazing.

Impact Analysis

There is a projected increase in recreational use, including OHMV use, within the resource area. Much of the increased OHMV use is projected in the Owyhee Front SRMA (Black Mountain and Hardtrigger HMAs). Within the Black Mountain HMA, the Northwest Rabbit and Southwest Rabbit pastures of the Rabbit Creek/ Peters Gulch allotment (0517) containing about 11,667 acres would have a OHMV Limited - Level 7 designation. This area would receive heavy OHMV use from May 1 through October 31 of each year. The area is considered winter range for wild horses and would be closed to OHMV activities November 1 through April 30. The season closure would reduce potential conflicts between motorized recreation and wild horses.

This alternative prescribes closure and removal of certain recreational facilities within the Owyhee Front SRMA in response to concerns over wild horse management. Facility closures would involve the Hemingway Butte OHV trailhead and its associated motorcycle trails and sand washes system.

The remaining Black Mountain, Sands Basin and Hardtrigger (except Sage Hen Allotment) Herd Area would have an OHMV Limited - Level 5 designation, limiting motorized recreation to existing roads and jeep trails with seasonal closure. The existing Hemingway Butte recreational facility would be closed, reducing OHMV conflicts. The Level 5 designation would greatly reduce disturbance to the wild horses. The reduced adverse impacts of the OHMV activities on wild horses would be closely tied to the ability to enforce OHMV regulations. Short-term adverse impacts would continue or increase in the HMAs until adequate law enforcement and public education programs are implemented.

Public interaction could be limited if monitoring indicates that adverse impacts continue to occur. Restricted public use along with increased public awareness and interpretive signing are projected to reduce major long-term impacts. Organized groups of greater than 15 people, including equestrian events, in HMAs would not be allowed. Group size restrictions and other permitting requirements would be beneficial.

Development of valid existing claims for locatable mineral resources in the HMAs could have increasing detrimental impacts on the wild horses as habitat is disturbed over the next 20 years. The Black Mountain, Hardtrigger and Sands Basin HMAs have moderate mineral potential. The extent of habitat impacts would be determined by the amount of activities, mining and mitigation techniques, location and other factors. Impacts would be in the form of short-term and long-term habitat loss, increased public access associated with development and indirect disturbance to the wild horses in the vicinity of mine operation. In Alternative D, the Black Mountain and Hardtrigger HMAs would be withdrawn from locatable mineral entry, closed to fluid mineral leasing and closed to mineral materials disposal. This would preclude any new disturbance.

Implementation of the domestic grazing program has resulted in construction of many miles of pasture and allotment fences within the HMAs. These fences have affected winter range accessibility and the free-roaming movement of the wild horses. Existing domestic livestock management fences would likely remain and the livestock permittees would be responsible for the timely opening of designated gates after their authorized grazing periods. Opening designated gates would allow for greater movement and normal distribution of the wild horses. Only temporary restrictions to the free-roaming behavior would occur during the period of authorized livestock use.

Domestic livestock grazing would be authorized throughout most of the HMAs at reduced AUM levels (see Table LVST-D for adjustments). The appropriate management level (AML) would be maintained and could increase slightly over 20 years. After meeting other land use objectives, available forage would be allocated to wild horses and wildlife. The wild horses would be assured adequate forage because the AML would be in balance with the forage production.

Conclusion

Overall, it is projected that this alternative would have beneficial impacts on wild horses.

Wild horses would be managed within all allotments, except Sage Hen (#0660), identified as wild horse herd areas in 1971. Long-term benefits of this management would be high demand for wild horses during adoptions, increased public awareness of the wild horse resource and protection of a natural resource value.

Meeting the Objectives

Objective WHRS 1: Maintain wild and free-roaming horses in the Owyhee Wild Horse Herd Management Areas (HMAs) at appropriate management levels (AML) within a thriving natural ecological balance.

In Alternative D, with the exception of potential impacts from existing mining claims, it is projected that wild horses would be beneficially impacted over the long-term. The majority of the HMAs would be designated a Limited - Level 5 with seasonal closures for OHMVs. This designation and closing the Hemingway Butte OHMV facility would reduce public contact and cause the wild horses less stress. With reduced domestic livestock grazing within the HMA's, less demand would be placed on important water sources and unintentional disturbance resulting from livestock management practices would be reduced. Range improvements, if found restricting free-roaming behavior, would be removed. Management of the wild horses would be improved because of increased public awareness through interpretative signing of the HMAs.

Projected impacts on specific wild horse needs are shown on the following page.

Impacts on General Health and Free Roaming Opportunity

Components	Baseline	Short-Term	Long-Term
Forage Allocation	2329 AUMs	2329 AUMs	2329 AUMs
Viability Level	118 head	118 head	118 head
Estimated Herd Size	178 head	AML	AML
General Health	0	0	+

Free Roaming Opportunity

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	0	+
0521	Seeding	2	0	0	+
0521	Bridge Creek	3	0	0	+
0522	Rats Nest	1	+	+	+
0556	Shares Basin	1	0	0	+
0513	Elephant Butte	3	-	-	-
0516	Opalene	3	0	0	+
0516	Hardtrigger	4	0	0	+
0516	Piute	5	0	0	0
0516	Hemingway	1	-	0	0
0508	Wilson	1	0	0	+
0508	Soldiers Cap	3	0	0	+
0508	Salmon Butte	4	-	0	+
0508	Whiskey Hill	5	N/A	0	+
0508	Alkali	6	N/A	0	+
0651	North Rabbit	1	0	0	+
0651	Little Kane	2	0	0	+
0651	State	4	0	0	+
0517	West Rabbit (N)	1	-	0	0
0517	West Rabbit (S)	2	-	0	0
0517	Kane Spring	3	0	+	+
0517	Moores Creek	6	-	0	+
0517	South Rabbit	5	0	0	+
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

Water Availability for Wild Horses in HMAs on a Year Long Basis

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	0	0
0521	Seeding	2	0	0	0
0521	Bridge Creek	3	-	0	0
0522	Rats Nest	1	0	0	+
0556	Shares Basin	1	0	0	0
0513	Elephant Butte	3	-	0	0
0516	Opalene	3	0	0	0
0516	Hardtrigger	4	0	0	+
0516	Piute	5	0	0	0
0516	Hemingway	1	-	0	0
0508	Wilson	1	0	0	0
0508	Soldiers Cap	3	0	0	+
0508	Salmon Butte	4	0	0	+
0508	Whiskey Hill	5	N/A	0	0
0508	Alkali	6	N/A	0	0
0651	North Rabbit	1	-	0	0
0651	Little Kane	2	0	0	0
0651	State	4	0	0	0
0517	West Rabbit (N)	1	0	0	0
0517	West Rabbit (S)	2	0	0	0
0517	Kane Spring	3	0	0	+
0517	Moores Creek	6	0	0	+
0517	South Rabbit	5	0	0	+
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

Public Interaction/Contact with Wild Horses Resulting in Disturbance

Allot #	Pasture Name	#	Baseline	Short-Term	Long-Term
0521	Barrel Spring	4	0	0	+
0521	Seeding	2	0	0	+
0521	Bridge Creek	3	0	0	+
0522	Rats Nest	1	-	0	0
0556	Shares Basin	1	0	0	0
0513	Elephant Butte	3	-	0	0
0516	Opalene	3	-	0	0
0516	Hardtrigger	4	0	0	+
0516	Piute	5	0	0	+
0516	Hemingway	1	-	0	0
0508	Wilson	1	-	0	0
0508	Soldiers Cap	3	0	0	+
0508	Salmon Butte	4	0	0	+
0508	Whiskey Hill	5	N/A	0	+
0508	Alkali	6	N/A	0	+
0651	North Rabbit	1	-	0	+
0651	Little Kane	2	0	0	+
0651	State	4	0	0	+
0517	West Rabbit (N)	1	-	0	0
0517	West Rabbit (S)	2	-	0	0
0517	Kane Spring	3	+	+	+
0517	Moores Creek	6	+	+	+
0517	South Rabbit	5	+	+	+
0660	Sage Hen	1	N/A	N/A	N/A

0 = Potential Impact
+ = Beneficial Impact
- = Adverse Impact
N/A = wild horses not managed for in this area

LIVESTOCK GRAZING MANAGEMENT

Change Agents

Riparian management practices, vegetation treatments, range improvements, winter grazing, wild horse management, interim management policy for wilderness study areas, national river designations, ACEC designations and mining activities.

Impact Analysis

Active preference is currently 136,285 AUMs with a average licensed use of 115,144 AUMs. Alternative D would result in a 5-year preference of 52,075 AUMs and a projected 20-year preference also of 52,075 AUMs. See Table LVST-D for forage allocations by allotment.

The reduction in stocking rate during the next 20 years would be attributed to the following factors:

Range Condition

Eliminate livestock grazing on all allotments where 75% or more of the allotment acreage is in an early seral stage.

NOTE: Improvement in range condition is not assumed for livestock grazing. With rest from livestock grazing, range monitoring would be used to assess the change in range condition. Reductions and increases in livestock use would depend upon the results of monitoring and allotment analysis, interpretation and evaluation reports.

Rangeland Utilization

Allow a maximum of 40% annual forage utilization of key forage species where 40% or more of the allotment is in late seral and 10% or less is in an early seral stage (total of 840 acres in the Owyhee Resource Area). Otherwise allow a maximum of 30% annual forage utilization of key forage species.

Riparian Management

Remove livestock grazing by July 15, or earlier if necessary, in all pastures with riparian or wetland areas regardless of size or monitoring status.

ACEC Designation and Special Management: Prohibit livestock grazing in certain ACECs as listed in Table ACEC-D.

Reduction of livestock grazing from pastures with riparian ecosystems would have an adverse impact on current available AUMs. Pastures containing riparian ecosystems in any condition or size would receive no livestock grazing after July 15. Some of the projected initial reductions in AUMs would potentially become available as best management practices are implemented. Because pastures identified with riparian ecosystems may also have other limiting factors, identification of lost AUMs attributed solely to riparian management is not possible. The total value for all limiting factors identified is a loss of 84,697 AUMs initially and continuing over the next 20 years. Impacts on active preference by allotment are shown in Table LVST-D. See Table RIPN-1 and RIPN-2 for affected riparian allotments and pastures.

Vegetation treatments (prescribed burning) would result in a short-term loss of 6,687 AUMs during prescribed burn management because of rest from livestock grazing for three consecutive growing seasons; one growing season before the burn (to insure sufficient fuel to carry a fire) and two growing seasons after the burn (to enhance vegetation establishment). The long-term impacts would result in an increase of 33,437 AUMs potentially available in the prescribed burn areas due to regrowth and seeding. It is not projected that the vegetation treatments would result in increased active preference on any allotment but some potential AUM reductions could be averted. See Table LVST-3 for potential vegetation treatments.

Vegetation treatments	Prescribed Burn	Burn and Seed	Total
Acres	64,400	0	64,400
Short-term reduction (AUMs)	6,687	0	6,687
Long-term production (AUMs)	33,437	0	33,437

Land treatments and range improvements solely oriented towards meeting livestock forage requirements would not be allowed. Land treatments and range improvements would be limited to those that resolve identified resource problems and contribute to achieving properly functioning ecosystems. Although none are identified in Alternative D, any range improvement projects needed to implement allotment grazing systems and manage livestock distribution would be designed to decrease unsatisfactory rangeland conditions and to meet other resource objectives. Existing fences would be modified and any new fences would be designed and constructed to meet Lower Snake River District Fence Policy standards for the wildlife species present to minimize barriers to big game movement. With implementation of the RMP and the subsequent allotment analysis, interpretation and evaluation process, any range projects would be projected to have a beneficial impact upon stocking rates by helping to avert potential AUM reductions. See Table LVST-3 for potential range improvement projects for Alternative D.

Those pastures in the Snake River geographic reference area that are below 3,500 feet in elevation would have a season-of-use change from spring to winter. This would allow slow improvement in the salt desert shrub communities. The range condition factor has indicated all current and prescribed winter pastures would have reduced livestock grazing. Initial active preference for the winter allotments indicates a 11,352 reduction with no AUMs being returned over the next 20 years. See Table LVST-D for season-of-use by allotment.

Management of the Wild Horse Herd Areas for Alternative D would have no impact on current AUMs available. The Sage Hen Allotment (0660) of the Hardtrigger Wild Horse Herd Area would not be managed for wild horses. Two pastures of the Reynolds Creek Allotment (Alkali and Whiskey) not currently managed for wild horses would be managed under alternative D.

Interim management policy for wilderness study areas would restrict range project developments but would not change livestock management practices. No reductions or increases in active preference would result from the interim management policy.

National river designations could result in livestock being removed from designated river channels. This could result in a change in the affected allotment's season-of-use but there are no projected reductions in active preference.

ACEC designations and special management would result in six small areas being fenced to exclude livestock but would not result in any AUMs being lost to livestock grazing. AUM reductions in ACECs would be for other reasons such as upland range condition and riparian management. Within the Owyhee River Bighorn Sheep Habitat Area ACEC no water developments would be constructed. See Table ACEC-D for management actions.

The Stone Cabin Mine would not impact stocking rates. Livestock grazing would already be reduced on the Jump Creek, Flint Creek and Silver City allotments for other reasons such as upland range condition and riparian management.

Conclusion

Most of the resource concerns identified in the allotment summary (Appendix LVST-1) would be resolved in the next 20 years. At the end of 20 years 31% of the uplands in the Owyhee River and Jordan Creek geographic reference areas would remain in a early seral stage with 23% in a late seral stage. About 6% of the lands in the Snake River geographic reference area would improve. Water, riparian and fish objectives would be met on 90% of the stream miles. Livestock use (active preference) would be 52,075 AUMs at the end of 20 years, a 62% decrease from current active preference.

Meeting the Objectives

Objective LVST-1: Resolve issues associated with livestock grazing identified in the allotment summary (Appendix LVST-1). Eliminate issues identified within 20 years.

This objective would generally be met in Alternative D because most resource concerns that were identified would be resolved.

LOCATABLE MINERALS

Change Agents

Mineral withdrawals for wilderness study areas, Section 202 wilderness study lands, corridors along rivers eligible for national river designations, special recreation management areas, recreation sites and ACEC's, Special Status

Species management, riparian and wetland management, recreation use, bonding and land tenure adjustments.

Impact Analysis

Withdrawal actions taken by Congress or the Secretary of the Interior in Alternative D would remove nearly 797,638 acres (about 54%) of public lands in the resource area from location and development under the general mining laws, subject to the valid existing rights of pre-existing mining claims. Validity examinations would be conducted on these claims to determine whether or not valid existing rights exist. See Table LOCM-D for specific closures.

Restricting exploration and mining activities in areas containing Special Status plant species could adversely impact future mineral development in the arid lowlands in the northern part of the resource area, particularly along Castle Creek. Limits on exploration and mining as well as increased costs of mitigation could reduce the economic viability of industrial mineral development in the Castle Creek area.

Restricting exploration and mining activities in riparian and wetland areas would have an impact on methods and costs of exploration activities and could increase the costs of mining enough to make mining unprofitable under current mineral commodity prices. This is particularly important for exploration and surface mining of low-grade precious metal deposits in the Silver City Range. Lessor impacts on exploration and mining would occur elsewhere in the resource area due to fewer conflicts between important riparian or wetland areas and high-value mineral lands.

Recreation activities would generally be incompatible with mining and exploration operations. Exploration and mine sites may need to be fenced off from nearby established recreations sites such as campgrounds and OHMV trails for safety reasons. New mining access routes could be restricted or located to not interfere with certain recreation activities. New campgrounds and related recreational facilities should be located well away from active mining operations to avoid noise, dust and mine-related safety hazards.

Maximum bonding for full reclamation and potential accidents could discourage many potential operations due to the difficulty in obtaining a bond of sufficient size to cover every possible situation. Most small miners and prospectors may not have the financial resources to qualify for a large bond. Large companies could hesitate to operate on public lands where maximum bonding could increase operating costs substantially. Providing for public review of all plans and reclamation standards prior to mineral entry for exploration and mining operations would likely increase costs to operators due to additional processing time to where many exploration and mining activities, particularly small ones, would become uneconomic.

Land tenure adjustments would remove a small amount of land from location under the general mining laws. Mineral reports would be prepared on all lands involved in the sales and exchanges and mining claims on public lands would require a validity examination to determine any valid existing rights.

Conclusion

The overall impact of Alternative D on locatable mineral management would be to severely restrict future exploration and development of locatable mineral resources in the resource area.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Physical access to the resource is provided for by the mining laws. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Two main criteria were considered when determining if the objectives were being met: 1) Developmental restrictions - if maximum bonding, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 2) Potential likelihood of development - is the resource present in economically minable amounts.

Objective LOCM 1: Provide opportunities for exploration and development of locatable mineral resources on public lands under the Mining Laws.

Alternative D appears to be too restrictive and inflexible to facilitate mineral exploration and development and also meet this objective.

Availability of Lands for Locatable Mineral Activity Relative to Resource Potential - Alternative D

Management Constraint	High Potential	Moderate Potential	Total
Public Lands			
Open	17,377	653,843	671,220
Withdrawn	7,963	789,675	797,638
Split Estate			
Open	1,918	102,135	104,053
Withdrawn	257	29,131	29,388

FLUID MINERALS

Change Agents

Mineral leasing closures and restrictions in wilderness study areas, Section 202 wilderness study lands, corridors along rivers eligible for national river designations, special recreation management areas, recreation sites and ACECs, special status species management, riparian and wetland management, bonding, recreation management and land tenure adjustments.

Impact Analysis

In Alternative D 797,312 acres (54%) of public lands in the resource area would be closed to oil and gas and geothermal leasing. Of this acreage 65,131 acres are currently closed. All but 21,170 acres of split-estate lands (oil and gas) and 30,236 acres (geothermal), where the surface is privately owned, would be open to leasing.

Restriction of exploration and drilling activities in areas containing special status plant species, riparian values and wetlands through seasonal occupancy restrictions would impact 419,452 acres (about 28%) of public lands in the resource area. These seasonal restrictions should not seriously impede fluid mineral development. The requirement for maximum bonding for full reclamation and to restore potential damage caused by accidents or emergencies, combined with public review of reclamation standards and plans prior to leasing could substantially increase costs to the mineral industry. Companies could become discouraged from filing fluid mineral leases in marginal areas because of the risk of delays in processing drilling permits and possible increased costs for conducting exploration and drilling operations. See Table FLUM-D for specific constraints.

Recreation activities would generally be incompatible with fluid mineral exploration and development. Noise, dust and heavy machinery associated with drilling operations would adversely impact recreational opportunities on the public lands. Future drilling sites may have to be fenced off from nearby established recreation areas, such as campgrounds, OHV parks or trails for safety purposes. Access routes into fluid mineral development sites may have to be restricted or relocated to not interfere with certain recreation activities. Established recreation sites may require a buffer of public lands where development activities would be restricted to reduce disturbance to recreationists.

Land tenure adjustments would cause some minor shifts in the amount of land available for fluid mineral leasing.

Conclusion

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

The outlook for an active fluid minerals leasing and exploration program is poor. There would always be some interest in fluid minerals in southwest Idaho, particularly in low-temperature geothermal resources, but until energy prices are much higher than present or until new technology becomes available, no leasing activity is likely to occur. Large scale land closures and excessive development restrictions provide a disincentive for energy companies to invest in areas containing marginal fluid mineral potential.

Meeting the Objectives

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

Objective FLUM 1: Provide opportunities for exploration and development of oil and gas and geothermal resources on public lands by imposing the least restrictive leasing categories necessary to protect other resources.

Alternative D is too restrictive due to land closures and other developmental constraints to meet the objective.

Availability of Lands for Fluid Mineral (Oil and Gas) Activity Relative to Resource Potential - Alternative D

Management Constraint	Low Potential	Zero Potential	Total
Public Lands			
Open	170,423	81,671	252,094
Open-Seasonal Occupancy	216,865	202,587	419,452
Open-No Surface Occupancy	0	0	0
Closed	554,696	242,616	797,312
Split Estate			
Open	49,043	63,228	112,271
Closed	16,280	4,890	21,170

Availability of Lands for Fluid Mineral (Geothermal) Activity Relative to Resource Potential - Alternative D

Management Constraint	High Potential	Low Potential	Total
Public Lands			
Open	9,506	242,588	252,094
Open-Seasonal Occupancy	10,184	409,268	419,452
Open-No Surface Occupancy	0	0	0
Closed	155,058	642,254	797,312
Split Estate			
Open	410	102,795	103,205
Closed	11,145	19,091	30,236

MINERAL MATERIALS

Change Agents

Population growth, mineral withdrawals for wilderness study areas, Section 202 wilderness study lands, corridors along rivers eligible for national river designations, special recreation management areas, recreation sites and ACECs, Special Status Species management, riparian and wetland management, bonding, recreation use and land tenure adjustments.

Impact Analysis

In Alternative D, 18,809 acres (about 43%) of public lands with high potential for sand and gravel would be closed to mineral development. Restricting the location of material sites for county or State use would adversely impact the maintenance of local county roads and State and Federal highways through higher transportation costs and increased time to complete construction and repair work on roads and highways. Increased commercial demand projected for the future would be constricted to fewer public lands and could result in a shortage of salable minerals available for commercial exploitation with a resultant increase in price to the public. See Table MMAT-D for specific closures.

Restricting the development of material sites in areas containing special status species, riparian values or wetlands would result in additional land closures and serve to further reduce the availability of public lands for salable mineral development.

The requirement for maximum bonding for full reclamation and to restore potential damage caused by accidents or emergencies, combined with public review of reclamation standards and plans prior to disposal could substantially increase costs of mineral materials. For some small disposals, the cost of a bond could exceed the cost of the material being purchased and use of the material site would become uneconomic.

Land tenure adjustments would remove a small amount of public land from availability as material sources.

Conclusion

The overall impact of Alternative D on salable mineral management would be to significantly reduce the availability of salable mineral resources for State, county and private use. Costs of production and transportation would increase due to higher transportation costs and some construction projects would take longer to complete due to increased haulage distances from available material sources. Requiring maximum bonding of all mineral material mining plans could create delays and significantly increase costs of producing mineral materials in Alternative D. The economic disincentives would have an adverse impact on salable mineral development in the resource area.

Meeting the Objective

Criteria for determining if the objectives are being met is quite different for minerals than for other renewable resources. Management actions would have much less an impact on the resource than on the opportunities to use the resource. Three main criteria were considered when determining if the objectives were being met: 1) Physical Access - is the area open and if so would access roads be allowed in or to an area where minerals are present. 2) Developmental restrictions - if seasonal, no occupancy, or other developmental restrictions are allowed, can the resources be economically developed using current technology. 3) Potential likelihood of development - is the resource present in economically minable amounts.

Objective MMAT 1: Provide opportunities for use of common variety minerals obtained from the public lands.

This objective would not be met in Alternative D because a relatively large amount of land with a high potential for mineral materials would be unavailable.

Availability of Lands for Mineral Materials Activity Relative to Resource Potential - Alternative D

Management Constraint	High Potential	Moderate Potential	Total
Public Lands			
Open	23,387	648,159	671,546
Closed	18,809	778,503	797,312
Split Estate			
Open	1,370	113,871	115,241
Closed	20	18,180	18,200

RECREATION

Change Agents

Recreation use, OHMV designations, special designations, recreation facilities, acquisition, vegetation treatments and locatable and fluid mineral activities.

Impact Analysis

Changes in the Availability of Recreation Opportunity Settings

Alternative D would result in some shift in the amount of acreage available in each of recreational opportunity spectrum (ROS) classifications. ROS classifications are an expression of the type of experiences one can achieve while in an area with various social, physical, and managerial settings. See Table RECT-3 for details on each of the settings. Semi-primitive motorized settings would remain the predominate opportunity class covering about 42% of the resource area. In the northern portion of the resource area (the Snake River and Jordan Creek geographic reference areas), roaded natural, rural, and urban settings would accompany semi-primitive motorized settings. Some semi-primitive nonmotorized settings would exist in remote mountainous areas. To the south (Owyhee River geographic reference area), semi-primitive motorized settings would continue to isolate numerous pockets of semi-primitive nonmotorized settings across the open plateau areas, as well as define a concentration of primitive and semi-primitive nonmotorized settings encompassing the Owyhee Canyonlands and the North Fork Owyhee River Backcountry SRMAs. In the south, roaded natural settings with some rural acreage would only be associated with the Owyhee Uplands National Back Country Byway and several connecting roadways.

ROS Classifications Availability In Alternative D (See Map RECT-1)

ROS Class	Total Acres in 1991	Percent of Resource Area in 1991	Percent of Resource Area in 2015
Primitive	234,940	13%	12%
Semi-Primitive Nonmotorized	386,150	22%	23%
Semi-Primitive Motorized	794,010	44%	42%
Roaded Natural	177,080	10%	12%
Rural/Urban	187,225	11%	11%
Total	1,779,405	100%	100%

Management actions in Alternative D are projected to cause changes in ROS class acreages primarily within primitive and semi-primitive motorized and nonmotorized settings. Changes in classification could result from 1) the closure of some areas or select vehicle routes to OHMV activity under various OHMV designations; 2) some increased administrate access to rangeland developments (wildlife guzzlers); 3) vegetation treatments (juniper harvesting); or 4) development of new roads or upgrading existing vehicle routes for mineral exploration and development. Closure of some vehicle routes within the enlarged Owyhee Canyonlands SRMA would result in removal of some semi-primitive motorized roadway corridors through this area. This would increase the availability of primitive and semi-primitive nonmotorized settings. In other areas, administrative routes to new wildlife projects (guzzlers) are projected to be unconstructed jeep trails, potentially reducing the amount of semi-primitive nonmotorized settings available. Mineral development, such as that in the vicinity of Silver City, would change semi-primitive motorized settings to roaded natural settings with the construction of maintained gravel roadways. Recreational development would also contribute somewhat to increased roaded natural settings.

Regardless of the outcome of wilderness designation, all WSA lands plus some surrounding acreage would be managed under VRM Class I in Alternative D. Under this VRM objective, no actions could be taken that would result in the loss of primitive settings or associated semi-primitive settings. A number of roads penetrating into the VRM Class I areas of the Owyhee Canyonlands and North Fork Owyhee River SRMAs, as well as the Juniper Mountain WSAs, would no longer be available for semi-primitive motorized use. Consequently, as roads naturally revegetate there would be a small increase in the amount of primitive settings in the three affected areas. Some acreage of primitive settings in non-WSA/SRMA lands around upper Nickel Creek would shift to semi-primitive motorized or nonmotorized settings as a result of woodland treatment projects.

Off-highway motorized vehicle (OHMV) designations prescribed in Alternative D would restrict public use on all public lands across the resource area. Restrictions would "Close" 338,974 acres to OHMV use and restrict ("Limit") use on 980,677 acres, the predominate restrictions being the Limited - Level 2 and 5 OHMV designations. No public lands would be "Open" to cross-country travel of motorized vehicles.

Alternative D would result in substantial changes in how the resource area could be used for off-highway motorized vehicle recreation. These changes are detailed in the discussion of impacts on the quality of recreational experiences located further in this recreation analysis section.

OHMV Designations for Alternative D (See Map RECT-1D)

Designation	Acres
Open	0
Limited - Level 1	0
Limited - Level 2	384,865
Limited - Level 3	0
Limited - Level 4	13,117
Limited - Level 4-IMP	0
Limited - Level 5	476,933
Limited - Level 6	13,345
Limited - Level 7	92,417
Closed	338,974
Total	1,319,651

Impacts on Recreational Opportunities in Special Designations

Alternative D prescribes intensive management of eight (8) special recreation management area (SRMA) designations totalling 721,655 acres as shown below. The North Fork Owyhee Backcountry, North Fork Canyon, Deep Creek and Owyhee Canyonlands SRMAs would be combined with the surrounding extensive recreation management area (ERMA) to create one large Owyhee Canyonlands SRMA encompassing much of the Owyhee River GRA. Alternative D also recommends congressional designation of 223 miles along the North Fork, East Fork and South Fork Owyhee River, and Deep-Nickel-Current Creek, Boulder Creek-Rock Creek and Jump Creek as national wild/scenic/recreational rivers within the enlarged Owyhee Canyonlands, Boulder Creek and Jump Creek SRMAs.

Recreation Management Area Designations for Alternative D (See Map RECT-2D)

Recreation Management Area Name	Acres	
Owyhee ERMA	611,726	(5,918 additional in BRA)
Blackstock SRMA	6,149	
Jump Creek SRMA	8,667	
Owyhee Front SRMA	180,940	
Fossil Creek Addition SRMA	*23,524	
Squaw Creek Addition SRMA	*26,052	
Owyhee Canyonlands SRMA	453,963	(5,627 additional in BRA)
Silver City SRMA	2,174	
Oregon Trail SRMA	7,305	
Snake River Birds of Prey SRMA	7,766	
Guffey Butte Addition SRMA	**2,635	
Boulder Creek SRMA	2,480	
Total SRMA in Owyhee Resource Area	721,655	
Total in Owyhee Resource Area	1,333,381	
Total in Bruneau Resource Area		11,545

* Addition to Owyhee Front SRMA for OHMV management.

** Addition to Snake River Birds of Prey SRMA for support of Celebration Park proposal.

Suitable River Segments for Alternative D (See Map WSR-1)

Seg.#	Segment Name	Miles	Classification
S1a,c	South Fork Owyhee	28	Wild/Recreational
S2a	Lower East Little Owyhee	9.5	Wild/Recreational
S3a	East Fork Owyhee	66	Wild
S3b	Bald Mountain Canyon Creek	3	Wild
S3e	Piute Creek	3	Wild
S3f	Juniper Creek (East Fork)	3	Wild
S3g	Dukes Creek	3	Wild
S4a-c	Deep Creek	32	Wild/Scenic
S7a	Nickel Creek	8	Wild
S5a	Red Canyon Creek	4	Wild
S6a	Petes Creek	3	Wild
S8a	Current Creek	9	Wild/Scenic
S8a	Corral Creek (CC)	3	Wild
C5a	Lower North Fork Owyhee	4	Wild
C5b	Upper North Fork Owyhee	16	Wild
C5b	Juniper Creek (North Fork)	1.5	Wild
C5b	Cabin Creek	3.5	Wild
C5b	Corral Creek (North Fork)	1	Wild
C5b	Noon Creek	3	Wild
C5b	Pleasant Valley Creek	3.5	Wild
C9	Boulder-Rock Creek	11.5	Wild
N8	Jump Creek	4	Wild
N8	Jump Creek	0.5	Recreational
Total		223	

Special designations in Alternative D would focus attention on long-term protection or enhancement of recreational opportunities dependent on predominately primitive and semi-primitive motorized and nonmotorized settings, and, in some areas, roaded natural settings. In Alternative D management actions prescribed in SRMAs are tailored toward 1) protecting existing ROS classifications by minimizing changes in the areas' current physical settings (Jordan Creek GRA), 2) altering ROS management and physical settings to reduce OHMV impacts on wild horses, wildlife, soils and vegetation (Snake River/Jordan Creek GRA), 3) improving public pedestrian (foot) access to allow the enjoyment of primitive settings by a larger sector of the general public (Owyhee River GRA), and 4) enhancing primitive settings through vehicle route closures (Owyhee River GRA). Alternative D would also ensure maintenance of existing roaded natural experiences associated with recreation sites as well as enhancing these experiences through development of new sites in the enlarged Owyhee Canyonlands and Snake River BOP SRMAs. However, in the Owyhee Front SRMA, Alternative D would reduce roaded natural and semi-primitive motorized recreation opportunities associated with the Hemingway Butte OHV Trailhead along Reynolds Creek Road in response to wild horse concerns.

National river designation for 223 miles of river canyons would include withdrawal of the affected lands from mineral entry, precluding any potential irretrievable loss of outstanding primitive recreational values considered to be of national significance.

Impacts on the Quality of Recreational Experiences

Not only would management actions prescribed in Alternative D result in a change in the availability of the various recreational opportunity settings, management actions would also affect the overall quality of recreational experiences that would be obtainable in the resource area.

Primitive settings require a sense of remoteness, a vastness (size), and little or no evidence of human use. Currently, recreational users seek out the canyonlands and some adjoining plateau and rock outcrop landscapes of the Owyhee River system for primitive recreation experiences. In Alternative D, these lands are prescribed for mostly Class I and II visual resource management (VRM) where management action would be allowed if they would only slightly affect the naturalness or scenic quality of the landscape. Recreation management actions prescribed in Alternative D affecting VRM Class I and II areas include short portage trails around two rapids on the East Fork Owyhee River, foot/equestrian trail systems within the North Fork Owyhee River watershed, and closure of some vehicle routes on the plateau lands of the Owyhee Canyonlands SRMA. Projected increases in primitive recreation use on the East Fork would not be enough to cause substantial adverse effects on naturalness, aesthetic qualities or solitude opportunities in the river canyon, except at isolated areas of concentrated use, such as the rapid portages. Increased levels of recreation use are projected to produce unsightly, random, unstable trailings around the rapids. Construction of one good maintained trail would prevent this. The foot trails along the North Fork would be constructed consistent with management objectives for a National Wild River designation to not adversely affect naturalness or scenic values for which primitive experiences are dependent. There are currently no maintained trails in the resource area except the short (one-eighth mile long) Jump Creek Trail. By developing foot access into the North Fork system there would be a greater diversity in the type of nonmotorized experiences available in primitive and semi-primitive natural settings. Closure of select roads around the Owyhee Canyonlands would enhance primitive and semi-primitive experiences on the plateau.

Other recreation management actions pertaining to development and maintenance of recreation facilities (campgrounds, picnic areas, trailheads and foot/equestrian trails) in semi-primitive motorized and roaded natural settings would provide increased choices in access opportunities without substantially affecting the natural or aesthetic character of the landscape, but would contribute to increased recreation use. The affected semi-primitive and roaded natural settings would generally be managed as VRM Class II and III areas. Some modifications of the natural landscape would be permissible in these ROS and VRM classifications, particularly if they enhance recreation opportunities. Trail and campground/picnic area developments, such as in the North Fork (Map RECT-3C), Guffey Butte (Map RECT-4C) and Jump Creek areas, would improve nonmotorized access into rugged canyon areas; giving access to many who would otherwise not have an opportunity to experience these settings. Such facilities tend to promote localized increases or concentrations of recreation use at a rate greater than at undeveloped sites; demanding a greater managerial presence.

Alternative D prescribes closure and removal of recreation facilities within the Owyhee Front SRMA in response to concerns over wild horse management. Facility closures would involve the Hemingway Butte OHV Trailhead and its associated motorcycle trails and sand wash systems (a 4,000-acre area). The Hemingway Butte OHV Trailhead is the most heavily used OHV-type recreation site in the resource area. Its closure would cause a shift in OHMV recreation use to the remaining two trailheads. This would cause increased impacts on their trail systems and affect their social settings (increased crowding), thereby reducing the quality of OHMV activities across the Owyhee Front.

Projected increases in visitor use in the resource area would not adversely affect the quality of recreational experiences through the year 2015 by causing a sense of crowding or by contributing to the deterioration of the natural landscape, except in the Owyhee Front. Rapidly increasing use of the Owyhee Front would hamper BLM's ability to reduce or prevent resource deterioration of undeveloped sites on an overall basis. Localized vandalism, facility maintenance and unauthorized OHMV use would likely remain the principal cause of resource deterioration and facility damage at already developed sites such as Jump Creek and the off-highway vehicle (OHV) trailheads. Reducing the amount of land area available for OHMV opportunities (changing from a OHMV Limited - Level 1 to Limited - Level 5 and 7 designations) at the same time that recreation use is steadily increasing would concentrate OHMV use to the detriment of both the physical and social settings which OHMV users are dependent upon for a quality recreation experience.

Alternative D prescribes additional developments to mitigate resource damage as well as increase recreational opportunities along the Owyhee Front for activities other than OHMV use. Alternative D provides specific direction for development of equestrian trail trailheads and trail systems in the Owyhee Front (outside of wild horse HMAs) and Snake River BOP SRMAs to accommodate increased interest in horseback activities. These trail systems could also be used for hiking. In recent years, there has been a dramatic increase in equestrian use for competitive events, casual use and commercial outfitting. To date, the BLM has only been able to meet the need for facilities associated with motorized (OHMV) recreation use along the Owyhee Front.

OHMV designations are intended, in part, to protect the existing recreational settings by preserving the natural and aesthetic character of select landscapes in the face of ever increasing numbers of recreation users. The OHMV designations prescribed in Alternative D would substantially reduce the quality of the existing OHMV experiences in the resource area as a whole as well as restrict nonmotorized experiences during the spring. There are five specific impacts that need to be discussed:

> The Limited - Level 2, 5 and 7 designations that would cover much of the resource area would affect all OHMV-dependent recreation activities until after April 30 of each year unless it could occur directly next to maintained dirt, gravel or asphalt roads or along a select, limited number of designated OHMV routes. Since all recreational activities require some kind of vehicle transportation to gain initial access to public lands, recreation use would have to cease until May of each year. These designations would prevent most OHMV use of the Owyhee Front during the most favorable use period of mid-February through April. They would limit access opportunities for snowmobile use. The designations would affect not only motorized activities, but would also reduce some hiking and backpacking opportunities. River floating

opportunities would not likely be affected because it is projected that existing shuttle routes would be designated for OHMV use.

In the Owyhee Front, the shift from the existing Limited - Level 1 to Level 5 OHMV management within wild horse management areas would substantially reduce existing OHMV activities on about 36,000 acres which center around the use of motorcycle/ATV trails and sand washes. There are about 140 miles of motorcycle/ATV trails and sand washes that would no longer be available for public use. The Kane Spring pipeline road complex would also have to be closed to public recreational use (about 18 miles) to make the OHMV designation effective at controlling recreation use. The affected area would include all lands west of Reynolds Creek and the middle to upper elevations of the Rabbit Creek area. The 24,885 acres of the Fossil Creek Addition SRMA, north of Highway 78, would no longer have about 50 miles of sand washes and trails available for use. In total, the quality of OHMV activities (availability of vehicle routes) on about 60,900 acres would be severely reduced, eliminating 190 miles of trails and sand washes.

The extensive Limited - Level 2 and 5 designations would help protect the scenic and natural qualities of the landscape for those OHMV users who participate primarily in sightseeing and driving for pleasure activities with their off-highway vehicles on the network of primitive roads and jeep trails ("trail riders"). To many OHMV users the vehicle (motorcycle, ATV, or 4X4 truck) is principally an enjoyable mode of transportation to seek out interesting landscapes or recreation experiences (hunting, rock collecting, photography, etc.). These users are generally content using existing roads and trails and may not enjoy the presence of new vehicle routes that detract from the scenic character of the landscape. Being required to remain on existing vehicle routes and avoiding cross-country travel can be tolerated or even supported if it helps preserve the Owyhee Uplands experience. The Level 2 designation covering much of the northern half of the resource area would allow for the planned development of single-track trails. However, these opportunities would not be available within the Owyhee River GRA which covers much of the southern half of the resource area because of the Limited - Level 5 designation.

The extensive "Limited" designations would also confine another type of OHMV user to the 92,417 acre Limited - Level 7 area of the Owyhee Front. This type of OHMV user consists of the off-road vehicle ("ORV") user. The "ORV" user operates has the same types of vehicles as the "trail rider", but the performance of the vehicle and the physical agility and strength required to operate it at high speed or on difficult terrain are necessary elements for a satisfactory recreational experience. The Limited - Level 2 and 5 designations found elsewhere in the resource area would eliminate the "ORV" experience.

The "Closed" designation that would encompass a large portion of the enlarged Owyhee Canyonlands SRMA in the vicinity of the North, East and South Fork Owyhee River, and Juniper Mountain would result in closure of select roads and jeep trails. The closure would affect over 70 miles of dirt roads and jeep trails.

A number of fence gates define legal divisions between Federal and private properties where the public has no right of passage. Many of these gates can be locked, particularly during the hunting season. Land actions (acquisitions of easements or free title, and exchanges) in Alternative D have the potential for providing some public access where locked gates or signing prevents access to large blocks of public land.

Improved upland vegetation and riparian conditions brought about by new grazing systems and substantially reduced livestock numbers would cushion wildlife populations against the natural adverse effects of cyclic climatic conditions and possibly result in population increases. These population increases would also apply to fisheries where improved riparian conditions would result in improved instream fisheries habitat conditions. Greater diversity, numbers, and sizes of fish would be projected for the angler. However, from a recreational perspective, there could be a disadvantage to improving riparian conditions. Smaller stream channels returning to good or excellent conditions could become overgrown with dense willow and other shrubby riparian vegetation. This vegetation could crown over much of a stream to make fishing extremely difficult. In narrow, steep-walled canyon areas, the riparian vegetation could extend across the entire canyon bottom; making hiking and camping activities difficult if not impossible. Improving riparian conditions could also affect boating safety in select areas along the narrow upper reaches of Deep Creek as more shrubby vegetation overhangs the stream channel.

Alternative D would allow prescribed burning and woodcutting. However, under constraints imposed by the alternative, only a total of about 3,200 acres could be burned per year (a total of 64,400 acres over 20 years). Woodcuts could reach 17,000 acres over 20 years. These treatments would help control the spread of serial juniper or reduce sagebrush competition for grass species on sagebrush-bunchgrass ecological sites. Such actions are intended, in part, to maintain or restore forage and forage/cover ratio requirements for wildlife; contributing to more stable wildlife populations and higher quality hunting opportunities in the area. However, the woodland treatments would degrade the scenic quality of the landscape and, in the case of woodcutting, the landscape's natural character. Adverse visual impacts could last as long as 50 years depending on the age class of serial juniper stands being treated (see visual impact analysis). During this period, the quality of recreational experiences would be diminished. Treatments would be concentrated in the Jordan Creek area and northern portion of the Owyhee River area within mostly VRM Class II areas. Numerous treatments in this region through the year 2015 would have a cumulative effect on the quality of recreational experiences of all types within predominately semi-primitive motorized and nonmotorized settings, and, to some extent roaded natural settings. Very few primitive acres would be affected. In semi-primitive motorized settings, reduced natural and scenic character may be tolerated more readily by hunters (a primary user group) in light of the improved game populations projected. Those using roaded natural settings along such roads as the Owyhee Uplands National Back Country Byway would have their recreation experiences most affected because the sightseeing and driving for pleasure activities sought on these roads are highly scenic dependent. In time (25 to 50 years), visual effects of treatments would be largely gone and the quality of the recreation experiences restored or enhanced. Reburns of treated areas are projected to occur on a regular basis. Reburns would have minimal visual impact after several growing season because larger trees would generally not be involved, thereby having little long-term effect on recreational experiences. For prescribed burn projects affecting mostly semi-primitive motorized and nonmotorized settings found on sagebrush-grassland ecological sites outside of the woodland region, the burn and possible subsequent drill seeding would not effect visual quality over the long term, but would somewhat reduce naturalness to the detriment of semi-primitive nonmotorized experiences.

Concerns for watershed protection in Alternative D would most likely to have a long-term effect on the availability of OHMV trails in the roaded natural and semi-primitive motorized settings of the Owyhee Front SRMA within the Limited - Level 7 designation. It is projected that a number of miles of trail would eventually have to be closed temporarily or permanently to stabilize or reverse erosion caused by off-highway motorized vehicles.

Alternative D would allow for some locatable and fluid mineral exploration and development activities. Most mineral activities affecting recreation use are projected to be concentrated in the Silver City area and, to a lesser amount, the Owyhee Front. Mineral development in the DeLamar and Florida Mountain area would result in a change in ROS class from semi-primitive motorized to roaded natural, as well as reduce the quality of surrounding semi-primitive settings. The nature of open-pit mining, however, would preclude the public from using much of the roaded natural setting because of safety reasons during the time of mine operation. The quality of semi-primitive recreation experiences on lands immediately surrounding the mine operation would be reduced by visual and audio intrusions. For more detail on the DeLamar and Florida Mountain mineral activities, refer to the Stone Cabin Mine EIS. Additional mine sites are projected to be developed in the Silver City area resulting in a cumulative effect on recreational experiences ranging from exclusion, restricted access, and degradation of natural and scenic quality. Other mineral activities, such as exploration for oil and gas resources, could also cause new roaded natural corridors and cause localized reductions in the quality of recreational experiences in the semi-primitive motorized settings of the Owyhee Front GRA (outside the Owyhee Front SRMA).

To protect the high quality of primitive and semi-primitive recreational experiences in the watershed of the Owyhee River system, Alternative D recommends withdrawal of all lands in the Owyhee Canyonlands SRMA from mineral entry. This withdrawal would affect the canyon systems of all eligible river segments within the resource area, except Boulder Creek-Rock Creek and Jump Creek. The SRMA designations that accompany these river segments are also recommended for withdrawal.

Conclusion

Alternative D would provide for intensive management of recreation resources and recreation use on 721,655 acres in eight (8) special recreation management areas (SRMAs). Included in this acreage would be the recommendation for congressional designation of 223 miles of river canyon along the North Fork, East Fork and South Fork Owyhee Rivers, Deep-Current Creek, Boulder Creek-Rock Creek and Jump Creek as national wild, scenic and recreational rivers to afford long-term protection to the rivers' nationally significance primitive recreation values.

The restrictive OHMV designations would eliminate OHMV cross-country travel from the resource area year-round and would severely diminish other OHMV route-dependent recreation uses during the spring months of March and April. In the eastern half of the Owyhee Front SRMA, motorcycle/ATV trails and sand washes could be used as part of a designated system but only during a portion of the customary OHMV use season, severely reducing the value of the Owyhee Front for OHMV use. Elsewhere, all OHMV use would be restricted to existing or designated roads and jeep trails, and to some single-track trails for motorcycles/ATVs, but not until after April 30th, thus reducing vehicle access for a wide variety of springtime recreation activities. The canyonlands of the Owyhee River system and some surrounding plateau lands would be "Closed" to motor vehicle use except at select locations to allow float boat access.

Much of the resource area (42%) would remain in semi-primitive settings. In VRM Class II/III areas, woodland treatment projects would moderately to severely reduce the quality of semi-primitive recreation experiences until affected lands have recovered (25 to 50 years). Over the long term, treatment projects could improve the quality of recreational experiences, especially for hunters because of increased or stabilized game populations.

The VRM II areas prescribed in Alternative D would generally protect existing recreation settings and experiences except in areas of open-pit mining (Silver City area). Mineral activities would severely reduce the quality of semi-primitive recreation experiences and result in the shift of some semi-primitive motorized recreation settings to roaded natural settings. The VRM Class 1 areas would have existing primitive setting protected as well as allow some shift from semi-primitive to primitive settings as "Closed" roads re-vegetate.

Meeting the Objectives

Objective RECT 1: Provide for off-highway motorized vehicle (OHMV) use on public lands while protecting sensitive resource values.

Off-highway motorized vehicle designations in Alternative D would not fully meet the objective of providing for OHMV opportunities within the resource area. The designations would restrict or eliminate the types of opportunities available (off-trail use, early springtime use) throughout the entire resource area in exchange for increasing the level of protection afforded to sensitive resource values.

Objective RECT 2: Provide special management attention to areas of public land with identified special recreational, scenic, and cultural values where current and projected recreational demand warrants intensive management.

The special recreation management areas identified in Alternative D would contain all lands needing special attention because of intensive recreation use and conflicts with sensitive resource values in predominately roaded natural and semi-primitive motorized settings, and all lands needing protection of nationally significant recreation and scenic values associated with primitive settings.

Objective RECT 3: Determine the suitability of all eligible rivers and streams for inclusion in the National Wild and Scenic Rivers System.

Alternative D would provide permanent protection on 100% of the eligible river miles in the resource area under a suitable recommendation for all 223 miles of eligible river segments.

Objective RECT 4: Provide for high quality recreational opportunities and experiences at developed and undeveloped recreation sites by maintaining existing amenities (roaded natural, urban and semi-primitive motorized settings) and by providing new recreation sites for the public's enjoyment, with emphasis on roaded natural and semi-primitive motorized settings.

Alternative D would not fully meet the objective. Though it would provide for continued recreational experiences at existing sites and would establish direction in the development of new recreation sites throughout the resource area particularly in the Snake River geographic reference area, it prescribes removal of the Hemingway Butte OHV Trailhead, the most heavily used OHMV-type recreation site in the resource area.

Objective RECT 5: Develop a trail system that provides a range of motorized and nonmotorized recreation opportunities for the public's enjoyment of primitive, semi-primitive nonmotorized, semi-primitive motorized and roaded natural settings.

Alternative D would not fully meet this objective because it would reduce the availability of motorized trail opportunities and recreation facilities in the Snake River geographic reference area despite increasing recreation demand for OHMV experiences. The alternative would, however, increase the diversity of recreation opportunities through foot/equestrian trail development as well as provide public information pertaining to that diversity.

Objective RECT 6: Pursue increased public access opportunities in motorized and nonmotorized settings through the acquisition of fee titles or recreational easements (willing landowners only).

Alternative D would fully meet this objective.

Objective RECT 7: Retain at least 10% of the Owyhee Resource Area in a primitive recreational opportunity (ROS) setting.

Alternative D would exceed this objective by providing long-term protection to existing primitive settings found on 12% of the resource area.

WILDERNESS

Change Agents

OHMV activities (road and trail maintenance and closures) and recreation facilities.

Impact Analysis

The 294,740 acres of wilderness study areas (WSAs) in the resource area (see Map WNES-1) are required to be managed under BLM's Wilderness Management Policy (IMP) to protect their wilderness characteristics; naturalness, and outstanding opportunities for primitive recreation or solitude. The IMP prohibits taking any action considered to adversely affect a WSA's suitability for congressional wilderness designation. An action is considered an impairment of wilderness suitability if: 1) it individually, or when considered collectively with other existing human imprints, makes the imprints of man substantially noticeable to a casual observer in the WSA as a whole, and/or 2) the action reduces the value of the WSA for wilderness as compared to other land uses. No actions have been identified in Alternative D which would impair wilderness values on WSA lands.

In Alternative D, as with all other alternatives, the recommendation for congressional designation of 195,980 acres of public lands as wilderness is being carried forward. Within this acreage are 3,890 acres of non-WSA, Section 202 FLPMA study lands which have also been recommended for wilderness designation. Unlike WSA lands, Section 202 study lands are to be protected only from unnecessary and undue degradation under authority of Section 302 of FLPMA. No actions which would cause unnecessary or undue degradation have been identified for Section 202 lands in Alternative D.

Alternative D prescribes management of WSA and Section 202 lands to a higher standard than required by the BLM Wilderness IMP. Alternative D provides direction for management of WSAs and 202 lands through identification of most all affected lands as visual resource management (VRM) Class I and a "Closed" off-highway motorized vehicle (OHMV) designation (see Maps RECT-1D and VISL-D). These classifications and designations expand beyond the established WSA and 202 boundaries to include some additional contiguous public lands yet exclude several major road corridors through the WSA and 202 lands, including:

1) the access road to the Garat Crossing launch site for the East Fork Owyhee River.
2) the road from Bull Camp south to the Garat plateau which passes through Crutcher's Crossing on the East Fork Owyhee River.
3) the two roads extending westward from the 45 Ranch site on the South Fork Owyhee River.
4) the road extending from the Owyhee Uplands NBC Byway southward across the top of Juniper Mountain and down Bedstead Ridge to Bull Camp.
5) the access road to Coyote Hole on the South Fork Owyhee River.
6) a short access route to one of the prescribed North Fork Owyhee River trailhead sites.

The road corridors would be managed as VRM Class II and OHMV Limited - Level 5. The classifications and designations identify the level of development and uses allowed. Within the Class II road corridors, small launch site developments and road maintenance to existing standards would help stabilize fragile sites and areas that are currently concentrating recreational use. The recreation developments and road maintenance would not attract additional recreational use since access roads would be retained at their current level of construction, a condition which tends to discourage use by the general public (driving for pleasure and sightseeing).

Within VRM Class I areas, the "Closed" OHMV designation would lead to the eventually natural rehabilitation (revegetation) of over 70 miles of existing roads and jeep trails (ways). This rehabilitation would increase the amount of lands in the resource area containing wilderness characteristics and would enhance the overall quality of wilderness values on WSA and 202 lands. The only developments within the VRM Class I areas would be primitive foot and equestrian trails. Trail construction would include short portage routes around two rapids on the East Fork Owyhee River. This action would eventually be needed to mitigate impacts from primitive recreation use. Portage trailings around the rapids are causing soil and vegetation damage that would inevitably lead to reduced naturalness and scenic quality as recreation use levels increase. Trail construction could also include up to 30 miles of foot and equestrian trails throughout the North Fork Owyhee River area (see Map RECT-3C). This trail system would enhance opportunities for the public to have access to the North Fork's wilderness values without adversely affecting the area's overall wilderness characteristics or scenic values. Trail construction is consistent with the BLM Wilderness Management Policy.

Conclusion

Implementation of Alternative D would ensure protection of wilderness values on all WSA and Section 202 study lands regardless of the outcome of congressional wilderness designation. Road and jeep trail closures and expansion of VRM Class I and OHMV "Closed" designations beyond the existing WSA and Section 202 lands would not only eventually increase the amount of public lands containing wilderness characteristics, but would also enhance wilderness values on existing WSA and Section 202 lands.

Meeting the Objectives

Objective WNES 1: Manage wilderness study areas so as not to impair their suitability for potential designation as wilderness.

Alternative D would exceed this objective by managing wilderness values to a higher standard than that required under the BLM Wilderness IMP and eventually increasing the amount of public land in the resource area containing wilderness characteristics.

Objective WNES 2: Following any enabling legislation, manage designated wilderness areas to ensure an enduring wilderness resource.

Alternative D would exceed this objective by giving immediate management protection to WSA and Section 202 study lands as well as select additional contiguous lands.

VISUAL RESOURCES

Change Agents

Vegetation treatments, watershed stabilization projects, wildlife guzzlers, recreation facilities, OHMV activities and locatable and fluid mineral activities.

Impact Analysis

Alternative D prescribes managing all public lands in the resource area under one of three visual resource management (VRM) classes ranging from VRM Class I to Class IV (see Map VISL-D).

VRM Class	Acres
VRM Class I:	310,486
VRM Class II:	661,993
VRM Class II-IMP:	0
VRM Class III:	347,172
VRM Class IV:	0

VRM Class I would be the most restrictive class where the intent is to preserve the natural character of the landscape. All of these VRM Class I lands would have no developments other than foot and equestrian trails and would have over 70 miles of roads and jeep trails closed to motorized use. Class III would allow noticeable changes to the characteristic landscape. These classifications are defined in detail in Appendix VISL-1.

Vegetation Treatments

Visual impacts would be most extensive from vegetation treatments in VRM Class II and III areas. In the juniper woodland communities (predominantly in the Jordan Creek and the northern half of the Owyhee River geographic reference areas), visual impacts would occur from prescribed fires in seral juniper stands and from harvesting seral stands for fuelwood. Alternative D identifies burning up to 64,400 acres over the next 20 years, about 3,200 acres per year. About one-half of this (30,300 acres) would be within the juniper woodland communities. In addition, commercial harvesting of juniper fuelwood is approaching 600 acres per year and could approach 1,000 acres per year by the year 2000. Cutting and burning could affect many of the fuelwood harvesting areas.

Within harvest areas, during the cutting period and for a number of years afterwards, the scenic quality of affected clear-cuts would be substantially reduced by a nearly continuous scattering of slash piles, numerous stumps about 8 inches in height, and constructed roads and jeep trails. The textures and colors of clear-cut areas would contrast sharply with those of surrounding woodland communities or the remanent sagebrush-grassland communities. However, the general shape or form of the clear-cut openings and the line defining them would mimic that of natural openings found throughout the woodland region. As a result, the adverse impacts on visual quality would diminish as the viewing distance increases. Once the viewing distance reaches several miles (beyond foreground viewing) and the presence of slash would not be readily discernible, the visual impact would be minimal. As the clear-cuts regain an abundance of new understory vegetation (grasses, forbs and shrubs), and needles and bark fall from slash piles, the casual observer would not be readily able to distinguish between natural openings and clear-cuts. Mitigation of visual impacts for projects located in the background (generally greater than 3 miles) could be hastened through the use of post-cut prescribed fire. The fire would add a temporary (3 to 5-year) adverse impact on the landscape by blackening it, but would remove the contrasting cutting debris.

The duration of adverse impacts from a woodcut site viewed within the foreground (usually less than three miles) would be dependent upon whether the site receives a post-cut prescribed burn. Burns would generally occur from 2 to 5 years after tree harvesting. As with background viewing, the fire would generate its own adverse impacts on visual quality by adding a sharply contrasting black color to the landscape, but would eliminate the effects of slash piles. With the aid of wind, rain, snow and natural or planted revegetation, the visual effects from the blackened ground would disappear within 3 to 5 years. Only blackened stumps would remain as a reminder of the woodcutting. The stumps could remain for 20 years or more with their visual presence only being lessened by the growth of surrounding shrubs that provide screening. In the absence of a post-cut fire, which is projected to occur about 25% of the time, slash and stumps would be visible well beyond 20 years with stumps lasting 50 years or more.

With cutting and post-burn effects lasting from 10 to 50 years, and cutting projected to occur at a rate of about 800 acres per year, it is highly probable that juniper fuelwood harvesting could contribute to reduced scenic quality on about 17,000 acres by the year 2015. At this time, about half of the acreage (8,000 acres) would retain the severe, short-term adverse visual impacts projected while the remaining acreage would be in varying stages of recovery.

In juniper woodland communities where only prescribed fire would be used, the effects of fire on visual quality would also depend upon viewing distance as well as the size of the trees involved. When viewed from the foreground, burned areas would contain numerous charred to partially charred tree skeletons and blackened earth and rock. Visual quality would be severely degraded by contrasts in line, form, color and texture. The larger the trees involved, the greater the visual degradation would be. Partially burned trees could retain reddened dead foliage for 3 to 5 years. The reddish color may be seen for several miles, well into background viewing areas. Only after the needles have dropped would trees in close-background areas become indiscernible on the landscape. The presence of burned background trees would also be lessened as the blackened bark falls away to leave a light grayish wood color not readily detectable behind a back drop of sagebrush-grassland communities. This process could take more than 5 years. As in the foreground, burned larger trees would have more of a visual impact in the background areas by requiring greater viewing distances before becoming indiscernible. Foreground viewing of barkless tree skeletons would remain for as long as 50 years or more depending upon the size of trees burned.

Assuming at least a 5-year period before fire evidence would be reduced, and assuming that 1,500 acres of juniper woodlands would be burned each year independent of woodcut areas, it is highly probable that there would be as much as 7,500 acres of woodland landscape showing the more severe adverse visual impacts from prescribed fire each year. By the year 2015, the woodland communities could cumulatively show another 22,500 acres of residual burned skeleton forests having a lesser adverse impact on visual quality. In summary, it is highly probable that as much as 30,000 acres would have some degree of visual degradation by the year 2015. Since prescribed burning would be done annually to control the juniper woodland community, visual impacts from burning would always be present. However, over time the degree of impact would lessen as reburns would be affecting smaller and smaller age and size classes of encroaching seral trees.

In those areas where prescribe fire would affect sagebrush-grassland communities, the visual impacts would be minimal and of short duration. Prescribed fires in these plant communities would eliminate old-age sagebrush and return the ecological site to an earlier successional stage. This would leave a vegetative mosaic of open grasslands intermingled with remanent stands of big sagebrush on deeper soiled swale sites or low sagebrush on shallower, often stony, low ridgeline sites. This intermingling of line, form, color and texture caused by the variety of vegetation and rocky soil profiles, often including low, meandering bedrock ledges or plateau breaks, would be considered more scenic than a homogeneous landscape of sagebrush. The adverse effects of fire in the sagebrush-grassland communities would come immediately after the fire and for the following one to three growing seasons when the blackened evidence of the fire persists. The fires would leave behind few vegetation skeletons. Those present would be small (sagebrush) and would be rapidly broken down by livestock and wildlife passage, wind, rain and snow. Because of the rapid recovery of visual quality on sagebrush-grasslands, and the relatively small amount of acreage to be burned at scattered locations, prescribed fire is not projected to be a major contributor to the cumulative impact of vegetation treatments in the resource area.

Cumulatively for burning and cutting, it is projected that more severe adverse visual impacts would occur on a total of 15,500 acres per year after the year 2015. An additional 30,000 acres would show a lesser impact due to natural recovery. These impacts would occur predominantly in juniper woodland communities. This acreage is about 18% of the woodland communities. There is currently no way to quantify how many acres of viewshed would ultimately be affected, either as foreground or background, by vegetation treatments. Given the type of topography and vegetation present, and the subsequently large viewsheds possible for any treatment site, some type of treatment site, whether detected as such or not, would be visible from nearly any observation point on 30% to 50% of the woodland region.

Alternative types of vegetation treatments (chaining or chemical spraying) would produce effects similar to those associated with cutting and burning. In the case of spraying, blackened trees would be absent yet reddened foliage and tree skeletons would persist. Chaining would uproot trees rather than leave behind stumps.

Watershed Stabilization Projects

Watershed stabilization projects would be used to secure eroding streambanks and prevent further erosion in side slope gullies, usually the result of concentrated grazing by livestock and recreation use. The projects would use unlimbed juniper trees to line stream channels (attached by steel cables) and rock gabion dams or wooden planks. Initial placement of these projects would include disturbance to riparian vegetation and soil areas or, in the case of juniper structures, would leave the stream lined with numerous, unsightly dead trees and an occasional exposed steel cable. Such disturbances would be short-lived. Disturbances associated with rock gabion dams would be mitigated by riparian vegetation regrowth and channel siltation in less than 5 years. Juniper logs would become imbedded in streamsides, as intended, within 5 to 10 years. Once vegetation is restored, usually to a degree beyond that present prior to the project, the affected stream channels would show an overall improvement in visual quality. The improvement would be attributed to the increased abundance, and sometimes diversity, of riparian vegetation. Increasing riparian vegetation along canyon bottoms would enhance the overall scenic quality of the landscape by enriching it with color and texture. These efforts could also improve the year-long abundance of surface waters that would enhance visual character.

Wildlife Guzzlers

Wildlife guzzlers would consist of a fence exclosure and an encatchment system that would look like a corrugated, square to rectangular piece of roofing set just above ground level. Such projects would usually be associated with dry climate areas of the Owyhee Front. As such they do not release water to generate riparian vegetation screening, but sagebrush and grasses could become dense within the exclosures. To mitigate the visual intrusion of these small projects, the guzzler sites could be painted a compatible color and placed to not draw attention within the affected viewsheds.

Recreation Facilities and Activities

Existing and prescribed recreation site developments in Alternative D are few and widely scattered and generally would not affect scenic quality of the resource area as a whole. Recreation sites would be designed to reflect concern for the four basic elements of the characteristic landscapes found in their viewsheds; form, color, line and texture. The Owyhee Front OHV Trailheads and Jump Creek Recreation Site facilities would alleviate OHMV-generated soil damage, public health and sanitation concerns, and excessive soil damage caused by indiscriminate foot trailings in sensitive vegetation communities. All these factors are contributing to a decline in visual quality at frequently used recreation sites. Recreation site developments similar to the North Fork Campground that could occur in Alternative D would reduce visual damage to recreation sites from concentrated recreation use as more and more people venture into the Owyhee Uplands plateau.

The foot/equestrian trail system prescribed in Alternative D for the North Fork Owyhee River region (Map REC-3C) would allow increased public opportunities to experience the exceptional scenic qualities of the Owyhee Uplands plateau. At the same time, this development would result in both initial construction impacts and localized visitor use impacts. Initial impacts would include construction of trails along or across river channels currently unaffected by any development. Trails would average 2 to 4 feet in width, have longitudinal gradient objectives of 10% or less. In Alternative D, no bridge crossings would be constructed. Such trail characteristics would produce a trail system that would have minimal effects on visual quality. Vegetative screening from juniper woodlands and moderately dense to dense riparian communities coupled with careful location of necessary trail switchback areas (nestle behind rock escarpment) would keep the trail substantially unnoticeable on affected landscapes as a whole. Recreation use of the trails would result in localized trampling of vegetation and soil compaction at popular primitive campsites, leading to localized adverse visual impacts. These impacts could be kept to a minimum by periodically resting some campsites. Without such a trail system somewhere in the Owyhee Canyonlands to help manage recreation use, there is a moderate to high probability that unregulated foot traffic associated with increasing backpack use would eventually develop indiscriminate trailings along the river corridors similar to those present in Jump Creek Canyon. Monitoring of the portage trails around several rapids on the East Fork Owyhee River suggests that it would take a relatively small amount of recreation use to cause a serious trailing and erosion problem of talus slopes in the canyonlands. These trailing cause considerably greater visual degradation than would a constructed and maintained trail system.

Implementation of off-highway motorized vehicle designations in Alternative D would help mitigate visual impacts across the Owyhee Front. Removal of the Hemingway Butte OHV Trailhead prescribed in Alternative D would eliminate authorized hill climbing and would eventually lead to the natural revegetation of the butte. Under the general authority of emergency closures (43 CFR 8340) and the shift from a Limited - Level 1 to Level 5 and 7 designations, closing some sites to prevent further OHMV-related visual damage is projected. Through continued public education, facility maintenance and enforcement under the Limited - Level 5 and 7 designations, additional hill climbing areas in the West Rabbit Creek area and the Owyhee Front SRMA as a whole would be reduced or eliminated and OHMV trails would be limited to their current extent.

Elsewhere in the resource area, Limited - Level 2, 5 and 6 designations and “Closed” areas in Alternative D would restrict development of new jeep trails and would allow for some orderly development of single-track trails in the north portion of the resource area. Area-wide restrictive OHMV designations would help reduce off-road activity overall. However, unauthorized OHMV travel is projected to continue in some areas despite the restrictive designations.

Energy and Mineral Development

Exploration activities for the Stone Cabin Mine, at the upper northwest elevations of Florida Mountain on the south side of the Jordan Creek watershed near Silver City, have left behind a mountain top partially devoid of vegetation and reshaped into a series of cut-and-fill terraces. The operation would result in removal of about 135 feet of the mountain’s northwest top. On the south side of the mountain, an 80-foot wide haulroad would allow trucks to haul ore material to a processing plant at DeLamar Mine. This mine has been operating as an open-pit for about 20 years resulting in removal of the top of DeLamar Mountain. Computer modeling done for the Stone Cabin Mine EIS determined that the Florida Mountain operation would be visible from 11,900 acres within the Jordan Creek watershed (VRM Class II) and another 27,000 acres of surrounding VRM Class II and Class III lands. Though no acreage was specified in the Stone Cabin Mine EIS, the cut-and-fill of the haul road would be visible over large acreages to the southwest, as is the pit at the top of DeLamar Mountain. Impacts on visual quality would vary within the region depending upon the viewer’s elevation and slope aspect. When in full view of the mining operation, impacts on visual quality would be considered to be “significant” in both the short term and long term, and would not be mitigated. Cumulative impacts on visual quality in the Snake River and

Jordan Creek geographic reference areas from past and existing mining are already considered to be substantial. There is a high probability that mineral development such as that of DeLamar and Florida Mountain would occur in other nearby mountains, further degrading the scenic resources of the Owyhee Mountain Range as a whole.

Along the Owyhee Front there is a low potential for the exploration of oil and gas resources. For the purposes of environmental analysis, the Owyhee RMP provides a development scenario relating to these resource uses. Oil and gas activities would introduce a series of small facilities to explore and extract discovered reserves. Along the Owyhee Front, rolling, highly convoluted peneplain topography could be used to mitigate the developments. However, because of their vertical character as compared to the somewhat horizontal character of the natural landscape found in the Owyhee Front as a whole, some level of substantial impact on visual quality is projected in very localized viewsheds.

Conclusion

Implementation of Alternative D would result in the widespread degradation of scenic quality in the woodland communities of the resource area from vegetation treatment projects. It is projected that about 18% (45,500 acres) of the woodland region would exhibit slight to severe impacts on scenic resources over the next 20 years. Affected viewsheds in the woodland region could exceed 30% of the land base. However, over the long term (20-50 years), vegetation treatments would produce a highly scenic landscape diverse in the four basic landscape elements (line, form, color and texture). Widespread visual degradation to a severe degree in also projected to occur from ongoing mineral exploration and development activities in the Owyhee Mountain Range. Though initially affecting natural landscapes, the development of recreation facilities to manage both motorized and nonmotorized recreation use would have some beneficial long-term localized impacts on scenic quality at isolated, specific sites and areas, as would the removal of the Hemingway Butte hill climbing site. Enforcement of "Limited" OHMV designations throughout the resource area would also benefit scenic values.

Meeting the Objectives:

Objective VISL 1: Manage public lands for visual resource values under Visual Resource Management (VRM) classifications.

Alternative D would fully meet this objective because it provides for a broad range of visual settings to compliment the resource area's recreational opportunities including VRM Class I designations to protect the highly natural and highly scenic areas of the resource area.

CULTURAL RESOURCES

Change Agents

Scientific collection, mining activities, ACEC designation, OHMV activities, vandalism, livestock grazing, wildlife habitat exclosures, streambank stabilization, acquisition and weathering and decay.

Impact Analysis

Planned actions which produce adverse impacts on cultural resource sites are limited by management procedures to scientific collection and excavation, and would only occur in situations where scientific research by an accredited entity (such as a university or other research organization) is permitted. These impacts would be mitigated, however, by the compilation of scientific data which are deemed to be significant by the archaeological profession. Beneficial impacts are produced by management strategies designed to preserve scientific data for future use, or for recreational or educational use. In Alternative D this latter category includes the protection accorded to the Oregon Trail and the existing Guffey Butte/Black Butte, Silver City and DeLamar National Register Districts.

Adverse impacts which occur to cultural resource values as a result of the implementation of projects generated by other resource activities are generally diminished by the performance of project specific cultural resource inventories in advance of project implementation. If it appears (as a result of a cultural resource inventory) that a cultural resource site would be adversely impacted by project implementation, the project be redesigned to avoid the impact. Should this not be possible, adverse impacts would be mitigated by appropriate strategies, including scientific excavation and collection, depending on the significance of the site in question. A significant exception to this would come from projects conducted under the Mining Law of 1872. It is often not possible to respond within a reasonable time frame to potential adverse impacts caused by mining operations.

Impacts from minerals related projects would be mitigated somewhat in Alternative D by the designation of an Area of Critical Environmental Concern (ACEC) in the Rooster Comb Peak area. The ACEC designation requires a Plan of Operations to be submitted for any minerals action proposed within the ACEC area, and an extension of the time period for which response is required. This extended time frame would provide a greater opportunity for the mitigation of damage to significant cultural resource sites.

Additional ACEC designations prescribed for Alternative D are Lambert Table and Sinker Creek. Management actions designed to protect or enhance cultural resource values within these areas include a limitation of OHMV activity in the Sinker Creek area to afford extra protection to the Oregon Trail and associated historic sites; and a change in the livestock turnout date in the Lambert Table area to protect significant prehistoric cultural resource sites from the effects of livestock trampling.

Additional adverse impacts on cultural resource values would occur from natural weathering and decay.

Beneficial impacts on cultural resource sites could occur as a result of projects generated by other resources. Wildlife exclosures could have the effect of isolating a cultural resource site from adverse impacts from livestock grazing, riparian treatment plans could benefit cultural resource sites by providing streambank stabilization, restrictions on OHMV use could lessen the effects of vandalism, and lands actions taken to block up Federal land holdings could facilitate the management of large clusters of significant cultural resource sites.

Cultural resources are fragile and non-renewable, and adverse impacts are generally cumulative through time. Therefore, short-term impacts (such as a single occasion of vandalism) could increase in severity from natural forces (erosion, etc.) so that the long-term (20 year) effect increases in severity. In Alternative D all of the sites known to be deteriorating from the effects of change agents would be visited to determine site condition and mitigation needs. It is possible that during this period of time some of the 444 sites known to be deteriorating would be destroyed, however a large number would be afforded adequate protection.

Conclusion

Beneficial effects would be appreciable from actions taken to actively manage cultural sites, such as site monitoring to determine rate of deterioration, and the development of site treatment plans, and from ACEC designation. Other beneficial effects would accrue as a result of the implementation of land treatment programs (riparian, wildlife exclosures, etc.) land exchanges and recreation program restrictions to OHMV.

Fewer adverse impacts (than Alternatives A, B and C) would occur to the majority of sites known to be deteriorating from the effects of change agents, including minerals program actions, livestock trampling, OHMV use and natural forces.

The overall effect over the duration of the plan would be generally beneficial.

Meeting the Objectives

Objective CULT 1: Protect known cultural resource values from loss until their significance is determined.

5 years: This objective would be met.

20 years: This objective would be met.

Objective CULT 2: Provide special management emphasis for the protection and conservation of significant cultural resource sites and values.

5 years: This objective would be met.

20 years: This objective would be met.

Objective CULT 3: Increase the opportunity for educational, recreational, socio-cultural and scientific uses of cultural resources.

5 years: This objective would be met.

20 years: This objective would be met.

HAZARDOUS MATERIALS

Change Agents

Land use authorizations and mining activities.

Impact Analysis

The Bureaus approach to hazardous materials management on public lands in this and all alternatives (1) seeks to prevent the generation and acquisition of hazardous wastes; (2) is intended to reduce the amounts and toxicity of wastes generated; (3) provides for the responsible management of waste materials in order to protect the natural resources as well as the people who live and work on and those who use Bureau-managed lands; and (4) provides for aggressive cleanup and restoration of public lands that are contaminated by waste materials.

All proposed activities on public lands would be thoroughly analyzed as to whether materials potentially hazardous to the environment and the public welfare would be affiliated with the activity. A full disclosure of all hazardous materials, their use, storage, transport and disposal would be required prior to authorization.

The largest hazardous materials site in the resource area is the DeLamar Mine. The cyanide heap leach pond and cyanide pond are on public lands and are permitted by the State of Idaho. Large quantities of chemicals and fuels are transported over Bureau administered roadways as part of this mining operation. Operation of the Stone Cabin Mine would require additional chemicals and fuels.

Conclusion

The overall impact of Alternative D on hazardous materials management would not be substantial.

Meeting the Objectives

Objective HAZM 1: Reduce the occurrence and severity of hazardous material incidences on public lands.

This objective would be met.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Change Agents

Relevant change agents for each area are listed below. The impact analysis for each of these change agents applies to those areas where identified. Impacts on specific areas are addressed where notable. See Table ACEC-4D for a tabular impact analysis summary.

Guffey Butte/Black Butte Archaeological District: recreation use.

Owyhee River Bighorn Sheep Habitat Area: livestock management, recreation use and OHMV activities.

Boulder Creek Outstanding Natural Area: livestock management.

North Fork Juniper Woodland Outstanding Natural Area: water developments, livestock management, fencing, recreation use and OHMV activities.

Cinnabar Mountain: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and OHMV activities.

Coal Mine Basin: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use and plant collection.

Hells Creek: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities and mineral materials activities.

Jump Creek: livestock management, fencing, fire management, fluid minerals activities, mineral materials activities and recreation use.

Juniper Creek Watershed: livestock management, juniper removal, fire management, locatable minerals, recreation use and OHMV activities.

Juniper Mountain: water developments, livestock management, fencing and recreation use.

Lambert Table: livestock management.

McBride Creek: rights-of-way, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use, OHMV activities and plant collection.

Pleasant Valley Table: livestock management, juniper removal, fire management, fluid minerals activities and recreation use.

Rooster Comb Peak: rights-of-way, fluid minerals activities, and OHMV activities.

Sinker Creek: rights-of-way.

Squaw Creek: rights-of-way, water developments, livestock management, fencing, fire management, fluid minerals activities, mineral materials activities and OHMV activities.

The Badlands: rights-of-way, water developments, livestock management, fencing, juniper removal, fire management, fluid minerals activities, mineral materials activities, locatable minerals activities, recreation use, OHMV activities and plant collection.

The Tules: recreation use.

Upper Deep Creek: water developments, livestock management, fencing, juniper removal, fire management, fluid minerals activities, mineral materials activities, locatable mineral activities, recreation use and OHMV activities.

Impact Analysis:

Excluding surface, subsurface and overhead rights-of-way in all nineteen areas (compared with three in Alternative A) would have a beneficial impact on the principal resource values identified for each area, as well as other values. Scenic, cultural, and biological values within the immediate areas would be maintained by precluding ground disturbance and aerial obstructions, however, resource degradation outside of the specified areas could be higher as more land area could be required to develop a given right-of-way.

Prohibitions on water developments would generally benefit botanical, wildlife and scenic resources as ground disturbing actions and new areas of livestock concentrations would be precluded. Potential weed introductions would be minimized as would conflicts with special status plants. Scenic values would be maintained by reducing the potential for visual intrusion. Restrictions on water developments would generally have either no impact or a beneficial impact on the identified values. In the five areas where water developments could be constructed (Guffey Butte/Black Butte, Juniper Mountain, Lambert Table, Rooster Comb Peak and Sinker Creek), some short-term and long-term adverse impacts on botanical and scenic values caused by ground disturbance and changes in visual character are projected. Wildlife, especially big game and upland game species, would generally benefit from wildlife water developments as habitat use would be extended seasonally. Because cultural clearances would be conducted for all projects prior to authorization, cultural resources would not be adversely impacted by water developments.

Prohibiting salt placement in all nineteen areas would have a beneficial impact on the vegetative, cultural, scenic and wildlife resources of these areas. Salt prohibitions would prevent trampling, soil compaction, and direct vegetation mortality due to the increased soil salinity.

Prohibiting livestock grazing in six small areas that have been recognized for their botanical resources would increase the value of these areas as rangeland reference areas and RNAs. Restricting livestock grazing in the remaining 13 areas would generally be beneficial for the vegetative, scenic, and wildlife resources of these areas. Restricting grazing to protect cultural resources, for which some of these areas have been recognized, is not projected to greatly benefit cultural resources. The portion of Sinker Creek occupied by the Oregon Trail is currently fenced and protected from livestock grazing.

Fencing would be prohibited or restricted in all areas. Prohibiting additional pasture fences would protect the scenic qualities of some areas and could improve or maintain the vegetation resource by excluding livestock from areas that are currently little used. Fence construction designed to improve dispersal and lower stocking rates would not be allowed in Alternative D, and some pastures or portions of pastures would continue to be overused. Restricting wildlife habitat exclosure fences would have a beneficial impact on the areas since exclosures would only be constructed if they maintained or enhanced the identified values and adverse impacts could be mitigated. Prohibiting exclosure construction at Pleasant Valley Table and The Tules would preclude the potential to exclude them from livestock grazing in the future, should it be needed.

Juniper removal is not applicable in eight of the nineteen areas identified in Alternative D, and has been identified as a Change Agent in four of the remaining eleven areas; Juniper Creek Watershed, Pleasant Valley Table, The Badlands and Upper Deep Creek. Prohibiting juniper cutting or burning would benefit the identified resources, primarily the high scenic qualities of these areas.

In Alternative D, fire suppression activities would be restricted or prohibited in all areas. It is projected that prohibiting fire suppression in Juniper Creek Watershed, North Fork Juniper Woodland and Upper Deep Creek would benefit the scenic values of these areas and potentially the upland vegetation, depending on its condition at the time of the burn. However, should fire burn these riparian areas, redband trout could be adversely impacted by the loss of plant cover and increased sediment loads. Prohibiting fire suppression in Squaw Creek could increase its vulnerability to invasion by the exotic annuals that surround it (medusahead wildrye, cheatgrass). Burn treatments to control medusahead near the creek (away from rare plant populations) would not be possible at McBride Creek if fire suppression is prohibited. While prohibiting suppression activities in Coal Mine Basin would ensure the protection of rare plant colonies from heavy equipment, it would not allow the flexibility of protecting these sites or adjacent areas from fire should the need exist.

Restricting fire vehicle use to existing roads and trails in those areas where they are present would provide for protection of structures and facilities both on site and on adjacent ground and also provide for resource protection. Prohibiting vehicle use in four areas where roads do exist (Cinnabar Mountain, Coal Mine Basin, McBride Creek, North Fork Juniper Woodland) would limit access to adjacent areas and could potentially cause more damage from fires than if the areas were only restricted.

Fire rehabilitation restrictions would have a beneficial impact on the areas. Except under threat of severe erosion, where sites were already dominated by exotics, and where the principal resource (i.e. special status plants) can be avoided, no seeding would be permitted in order to allow natural regeneration of high ecological condition sites. If severe erosion or invasion by annuals of special status plant sites is projected, seed or seedlings of native species may be used for rehabilitation of these problem areas by aerial or hand planting methods only. Alternative D provides for the determination of rehabilitation suitability on a site specific basis.

In Alternative D, all nineteen areas would be closed to fluid minerals activities. Closures on fluid minerals activities would generally have either a long-term benefit or no impact on the identified values in all areas. While fluid mineral development is unlikely because of the geology of southwest Idaho, closure would preclude the potential for any disturbance.

All nineteen areas would be closed to mineral materials activities in Alternative D. Closure to potential mineral materials activities in these areas is projected to have a long-term beneficial impact. Closures would provide resource protection given the uncertainty of future mineral material needs.

All nineteen areas are recommended for withdrawal from locatable minerals activities in Alternative D. Withdrawal would have a long-term beneficial impact on all resources within the areas.

Regardless of designation of 223 miles as national rivers, including Bald Mountain Canyon, Piute, Juniper, Dukes, Red Canyon, Petes, Corral, Cabin, Noon, Jump, Boulder-Rock, and Pleasant Valley Creeks, public use would substantially increase within the Owyhee River Bighorn Sheep Habitat Area, Juniper Creek Watershed, Boulder Creek ONA, and the Jump Creek area. The overall impacts from increased public use are projected to be long-term and adverse. Areas recommended for national river designations would also be recommended for withdrawal which would have an overall long-term beneficial impact on most resources by precluding mining activities.

Closing 16 areas to OHMV use in Alternative D compared with no OHMV closures in Alternative A is projected to have an overall beneficial impact on scenic, vegetation, wildlife, and cultural resources. Some roads could be reclaimed and the potential development of new roads would be largely discontinued in Alternative D. While Alternative D would not have a significant impact on OHMV users due to the lack of roads in some small areas (Hells Creek, Pleasant Valley Table, Squaw Creek, McBride Creek), recreational, general access, and maintenance related activities would be severely limited within larger areas such as Rooster Comb Peak, Sinker Creek, and Coal Mine Basin.

Restricting plant collection in the nineteen areas would have a long-term beneficial impact on all vegetation resources, including special status plant species. Through restriction, removal of plants would be regulated and minimized in an effort to maintain populations.

Conclusion

The overall impact of Alternative D on the areas is projected to be beneficial. Special management actions that control adverse change agents would be implemented.

Meeting The Objectives

Objective ACEC 1: Designate Areas of Critical Environmental Concern (ACECs) where relevance and importance criteria are met and apply special management to protect the values identified.

This objective would be met on all 19 areas in Alternative D. All 19 areas meeting the relevance and importance criteria would be designated and special management actions to protect the identified resource values would be implemented.

SOCIAL AND ECONOMIC CONDITIONS

Change Agents

Population and recreation growth, livestock grazing levels and Federal expenditures.

Impact Analysis

Greater Idaho's population is projected to increase throughout the next 20 years. Population growth has been a dynamic force in the current economic growth in southwestern Idaho. Between 1990 and 1993, regional population has grown by 37,700 or 11.3% within the four-county region of Ada, Canyon and Owyhee Counties in Idaho and Malheur County in Oregon (Bureau of Economic Analysis, Regional Economic Information System). However, population growth has taken on new dimensions, including quality of life considerations, here in this latter part of the 20th century. Recent migration has been toward smaller urban or rural areas and away from the large overcrowded metropolitan areas. Quality of life factors such as lower taxes, less inflation, lower crime rates, economic boom and leisure and recreation opportunities are sighted as reasons for this migration trend. This has resulted in increased pressure on the public land to provide a socially acceptable mix of land uses; away from consumptive use toward more nonconsumptive or preservation and retention in the public domain. The Owyhee Resource Area will continue to see increased pressure as regional population growth from nearby Ada, Canyon and Malheur Counties drives demand for alternative, and often conflicting, uses of these public land resources.

The following impact analysis is based on computer modeling of the regional economy for Owyhee, Ada and Canyon Counties in Idaho and Malheur County in Oregon using Micro IMPLAN (IMpact analysis for PLANning) which performs regional input-output analysis. (See Appendix SOCE-1 for a short summary of the modeling technique used in this impact analysis.)

Decreases in the number of Animal Unit Months (AUMs) permitted for livestock grazing (115,144 AUMs to 52,075 AUMs, or 63,069 AUMs) would decrease the number of cow/calf pairs by 4,838 within Owyhee Resource Area. This would be a 10.7% decrease over current cow/calf pairs (based on 1987 Census of Agriculture statistics for Owyhee County). Livestock revenues would decrease by $2,458,000 (based on $508 per cow/calf pair). This would be a negative impact on the local/regional economy by reducing output. This normally translates into fewer goods and services locally generated along with less employment. According to the model results, employment would decrease by some 79 full time equivalents (FTE) within Owyhee County and by 107 FTE if Canyon, Ada and Malheur Counties are included. Because Owyhee County has such a small labor force it is likely that the greater number of these lost jobs would come from nearby counties. Personal income (made up of employee compensation and proprietors income) would decrease by $2,508,000 within Owyhee County and by $3,241,000 if Canyon, Ada and Malheur Counties are included. However, income multipliers for Owyhee County are not large, therefore, the negative impact on Owyhee County would not be projected to be as traumatic as if the lost income were spent and respent within the county many times.

Changes in the season-of-use (establishing the July 15 end-of-grazing-season constraint) for range livestock grazing on the public land could have an impact on current ranch operations. Either additional forage (public or private pasture, or supplementing with purchased hay) or a change in management style could become necessary as suggested in Marousek, Stodick and Schimmel (Risk-Efficient Production Management Alternatives for Ranchers Using Public Land Grazing, Journal of Production Agriculture, 1992). Their study suggested that "beef producers who rely on public land forage may have alternatives to marketing calves directly off the range. These potential value-adding activities include backgrounding calves for sale or for further growth, as well as retaining ownership of calves or yearlings through feeding to slaughter grade in custom feedlots."

In addition to a decrease in final demand for range fed cattle (the decrease for products from the range fed cattle sector—i.e. the reduced number of livestock that cannot be fed and sold due to a decrease in available forage on the public lands; the ultimate consumers of commodities - both goods and services), there would be an increase in Federal funds expenditures to construct range improvement and recreation projects within the Owyhee Resource Area (see Table SOCE-7 for cost breakdown). For purposes of analysis, this would be evenly distributed throughout the next 20 years. An increase in final demand for labor and materials for the construction and implementation of these projects would result in an employment increase of approximately 4 FTE and $133,000 in income for Owyhee County and 4 FTE and $163,000 respectively, if Canyon, Ada and Malheur Counties are included. Again the additional workforce likely coming from counties surrounding Owyhee County.

Recreation activity is projected to increase approximately 70% between 1995 and 2015. However, it is not suggested that the increased recreation activity would be in response to BLM actions, rather, the regional population growth would be the root cause of any additional recreational activity on the public lands in the planning area.

Total regional economic impact on Owyhee County from changes in livestock grazing activity, Federal employment, and wholesale purchases of project materials is estimated to decrease final demand (the ultimate consumers of commodities - both goods and services) by $2,812,000 and decrease employment by approximately 76 FTE and personal income generation by $2,539,000. When Ada, Canyon, and Malheur Counties are included these figures become $3,919,700 in final demand, 108 FTE in employment and $2,852,200 in personal income generation. Taken as a whole, this is considered to be more significant for Owyhee County (however, its is less than 1% of total output) than for the four-county region.

Population decrease attributable to the decrease in output of goods and services on the public lands is projected to be small. The intra-regional population is projected to decrease by approximately 179 in response to the decrease in final demand for goods and services. With more than 370,000 currently within the four-county region, the decrease would not be significant.

The percent changes for Owyhee County and the four-county economic region are summarized below. See Table SOCE-D for the total regional effects. See Figures SOCE-1 and SOCE-2 for a graphic comparison of the alternatives.

	Final Demand	Total PW Income	Employment
Owyhee County	-1.79%	-2.28%	-2.23%
Four-County Region	-0.04%	-0.05%	-0.05%

Conclusion:

Negative impacts are projected for the local/regional economy by decreasing regional output of goods and services and employment. The impact is not projected to be significant enough to cause financial hardships for the local or regional infrastructure. Social services and other factors that currently contribute to the quality of life locally and regionally would not be significantly affected by the decrease in population.

Chapter 5: Consultation and Coordination

SUMMARY OF KEY PUBLIC INVOLVEMENT EVENTS

10-11-89 Notice of Intent to initiate a resource management plan and prepare an environmental impact statement and invitation to participate in the identification of issues (scoping).

11-20-89 Newsletter inviting public participation in planning process sent to mailing list (1,100). 60-day comment period identified. Announcement of three public scoping meetings.

12-18-89 Public scoping meeting in Jordan Valley, Oregon. 26 attended.

12-19-89 Public scoping meeting in Marsing, Idaho. 29 attended.

12-20-89 Public scoping meeting in Boise, Idaho. 40 attended.

1-19-90 Comment period for scoping extended 30 days until 2-23-90. 164 comment letters received during scoping.

11-15-90 Proposed planning criteria sent to revised mailing list (600) for review. 16 comment letters received.

2-7-91 Planning criteria approved by District Manager.

2-14-91 Approved planning criteria mailed to 16 commentors.

5-9-91 Preliminary findings of the wild and scenic river eligibility inventory sent to mailing list (120) for review. Public information meeting announced.

5-21-91 Public information meeting in Boise, Idaho for the preliminary findings of the wild and scenic river eligibility inventory. 50 attended.

1-24-92 Desert Group met with BLM staff to discuss National Conservation Area proposal.

6-4-92 Newsletter inviting public participation and inviting comments on potential ACEC designation of approximately 788 acres in southeastern Oregon. Sent to mailing list (117). 30-day comment period identified.

6-11-92 Notice of Intent to prepare an amendment to the Northern Malheur Management Framework Plan and invitation to participate in the identification of issues (scoping) regarding potential ACEC designation of approximately 788 acres in southeastern Oregon. Land are contiguous with 1,618 acres in southwestern Idaho being considered for ACEC designation. Documentation to be included in the Owyhee RMP effort.

2-10-93 Desert Group invited to develop an alternative and briefed on process.

2-22-93 Owyhee County Commissioners invited to develop an alternative.

3-5-93 Owyhee County Land Use Planning Committee briefed on alternative development process.

6-30-93 Desert Group submitted preliminary alternative to BLM.

7-27-93 Meeting between Desert Group and BLM to discuss Desert Group alternative.

12-17-93 Owyhee County Commissioners submitted preliminary alternative to BLM.

2-17-94 Meeting between Owyhee County Land Use Planning Committee and BLM to discuss Owyhee County alternative.

2-20-94 Desert Group submitted revised alternative to BLM.

2-24-94 Desert Group submitted final comments on their alternative to BLM.

3-28-94 Owyhee County submitted revised alternative.

8-1-94 Copies of respective alternatives sent to Owyhee County and Desert Group.

11-14-94 County provided comments on material sent on 8-1-94.

1-17-95 Meeting with County to discuss their alternative.

1-24-95 Owyhee County indicated inconsistencies between preliminary draft document and the Owyhee County Interim Land Use Plan.

2-9-95 Meeting with County to discuss their alternative.

4-15-95 County submitted final comments on their alternative.

AGENCIES, ORGANIZATIONS AND PERSONS CONSULTED

During the planning process the following were contacted:

Idaho Department of Fish and Game
U.S. Fish and Wildlife Service
Owyhee County Commissioners
Owyhee County Land Use Planning Committee
Desert Group

AGENCIES, ORGANIZATIONS AND PERSONS ON MAILING LIST

The mailing list for the Owyhee RMP effort includes about 600 entries. This list includes interested persons, organizations, Indian tribes, livestock permittees, and local, State and Federal agencies. The mailing list is on file at the Boise Field Office. The following list is representative of the entities on the mailing list:

Elected Officials
Congressional Delegation, Idaho
Congressional Delegation, Oregon
Governor, Idaho
Governor, Oregon
Canyon County Commissioners
Malheur County Commissioners
Owyhee County Commissioners
Owyhee County Assessor
Owyhee County Sheriff

Native Americans
Paiute Tribe (Burns)
Shoshone-Paiute Tribes (Duck Valley)
Shoshone-Bannock Tribes (Fort Hall)
Shoshone-Paiute Tribes (McDermitt)

Agencies
Bonneville Power Administration
Department of the Air Force
Federal Aviation Administration
Idaho State Historic Preservation Office
Idaho State Historical Society
Idaho Air National Guard
Idaho Department of Agriculture
Idaho Department of Commerce
Idaho Department of Fish and Game
Idaho Department of Health and Welfare:
    Air Quality Bureau
    Division of Environmental Quality
    Hazardous Materials Bureau
    Water Quality Bureau
Idaho Department of Lands:
    Bureau of Real Estate
    Bureau of Minerals
    Bureau of Range Management
Idaho Department of Parks and Recreation
Idaho Department of Transportation
Idaho Department of Water Resources
National Park Service
Nevada Department of Wildlife
Oregon Department of Agriculture
Oregon Department of Energy
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Oregon Department of Geology and Mineral Industries

Oregon Department of Land Conservation and Development
Oregon Department of Parks
Oregon Department of Water Resources
Oregon State Historic Preservation Office
U.S. Army Corps of Engineers
U.S. Bureau of Mines
U.S. Bureau of Reclamation
U.S. Bureau of Indian Affairs
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Geological Survey
U.S. Natural Resource Conservation Service

Organizations

Ada County Fish and Game League
Alternative Mobility Adventure Seekers
American Fisheries Society
American Mustang Foundation
American Rivers
Animal Protection Institute
Appaloosa Horse Club
Association of Oregon Counties
Audubon Society
Blue Ribbon Coalition
Boise State University
College of Idaho
Committee for Idaho's High Desert
Defenders of Wildlife
Desert Bighorn Sheep Council
Ducks Unlimited
Eastern Oregon Mining Association
Environmental Education Center
Friends of the Owyhees
Gem County Rock and Mineral Society
Idaho Archaeological Society
Idaho Association of Commerce and Industry
Idaho Association of Counties
Idaho ATV Association
Idaho Bird Hunters
Idaho Cattle Association
Idaho Conservation League
Idaho Farm Bureau
Idaho Gem Club
Idaho Horse Council
Idaho Hunters Association
Idaho Mining Association
Idaho Museum of Natural History
Idaho Natural Areas Coordinating Committee
Idaho Natural Resources Legal Foundation
Idaho Outdoor Association
Idaho Outfitters and Guides Board
Idaho Outfitters and Guides Licensing Board
Idaho Petroleum Council
Idaho Power Company
Idaho Public Utilities Commission
Idaho Rivers United
Idaho Sportsmen's Coalition
Idaho State Fish and Game Commission
Idaho State Grange
Idaho State Snowmobile Association
Idaho State University
Idaho Trail Machine Association
Idaho Whitewater Association
Idaho Wildlife Council
Idaho Wildlife Federation
Idaho Wool Growers Association
Idaho Native Plant Society
Izaak Walton League
League of Women Voters
Lower Snake River Back Country Horsemen
Malheur County Cattlemen's Association
Malheur Livestock Association
Mazama Conservation League
National Wildlife Federation
Natural Resources Defense Council
Nevada Cattlemen's Association
Nevada Outdoor Recreation Association
Northwest Federation of Mineralogical Societies
Northwest Pipeline Company
Northwest Resource Information Center
Oregon Cattlemen's Association
Oregon Environmental Council
Oregon Native Plant Society
Oregon Natural Desert Association
Oregon Natural Heritage Data Base
Oregon Natural Resources Council
Oregon Packers and Guides
Owyhee Cattlemen's Association
Owyhee County Historical Society
Owyhee Gem and Mineral Society
Owyhee Soil Conservation District
Pacific Power and Light
Public Lands Foundation
Sierra Pacific Power Company
Silver City Water Users Board
Society for Range Management
Southern Idaho Desert Racing Association

The Audubon Society
The Idaho Foundation
The Nature Conservancy
The Peregrine Fund – World Center for Birds of Prey
The Sierra Club
The Wilderness Society
The Wildlife Society
Treasure Valley Trail Machine Association
University of Idaho
Wild Horse and Trails Association
Wild Horse Assistance
Wilderness River Outfitters
Wildlife Management Institute

Others
Livestock permittees
Interested individuals
Local news media

List of Preparers

Name	Position	Responsibility	Education	Experience
Jay Carlson	Area Manager	Policy Guidance Decision Making	B.S. Resource Management, University of Idaho M.S. Forest Economics, State University of New York M.S. Forestry, Syracuse University	2 years, Idaho State, Inventory 4 years, BLM, Economist 10 years BLM, Planning 6 years, BLM, Area Manager
Jones Amundson	Range Conservationist	Livestock Grazing	B.S. Range Management, Washington State University M.S. Range Management, Washington State University	20 years, BLM, Range
John Benedict	Recreation	Recreation Visual Resources Wilderness	B.S. Forestry, University of California, Berkeley	20 years, BLM, Recreation
Dana Danzer	Fisheries Biologist	Fisheries Water Quality Riparian	B.S. Fish and Wildlife Management, Montana State University	2 years, BLM, Range 5 years, BLM, Watershed 9 years, BLM, Soils 5 years, BLM, Fisheries
Ann DeBolt	Botanist	Special Status Plants, ACEC	B.A. Botany, University of Montana M.S. Biology, Oregon State University	4 years, NPS, Biological Tech 9 years, BLM, Botanist
Randy Eardley	Writer/Editor Range Tech	Map production	B.A. Communication/ Journalism Boise State University	7 years, Journalism/publishing 8 yrs, BLM, Fire/Public affairs
Jean Fend	Geologist	Geology Minerals	B.S. Geology, Boise State University	2 years, BLM, Hydrology 4 year, BLM, Geology
Galen Green	Fire Management Specialist	Fire Management	B.S. Range and Forest Management, Colorado State University	9 years, BLM, Forester 14 years, BLM, Fire Ecologist
Joan Howard	Area Clerk	Word Processing	High School	9 years, BLM, Area Clerk, word processing
Pat Kane	Range Conservationist	Vegetation	B.S. Range Management, Utah State University	17 years, BLM, Range
Nancy Lull	Volunteer Program Coordinator	Document Layout/ Design	University of Idaho Boise State University	2 yrs, AFCOMS, Clerk-Typist 2 yrs, BLM, Editorial Assistant 1 yr, NOAA/NWS, Staff Asst. 7 years, BLM, Public Affairs, Volunteer Program Coord.

Katy Madrid	Computer Specialist	GIS Data Input and Analysis	Boise State University, Communications, English	8 yrs, BLM, Computer Spec., GIS
Mike Mathis	Wildlife	Wildlife Special Status Animals	B.S. Biology, Colorado State University	2 years, BLM, Range 18 years, BLM, Wildlife
John Martin	Agricultural Economist	Social and Economic Conditions	B.S. Agricultural Business Management, California State Polytechnic University M.S. Natural Resource Economics, University of Nevada, Reno	1 year, USDA, Statistician 8 years, BLM, Regional Economist 5 years, MMS, Economist 7 years, BLM, Agricultural Economist
Fred Minckler	Environmental Specialist	EIS Team Leader	B.S. Fishery Management B.S. Wildlife Management Utah State University	1 year, SCS, Soils 4 years, NMFS, Fisheries 2 years, BLM, Fisheries 16 years, BLM, Environmental Specialist
Kelly Moore	Realty Specialist	Lands	Boise State University, 1 yr, general studies	14 yrs, BLM, Land Law Examiner, Realty Specialist
Janis Reimers	Ecologist	GIS Data Management	B.S. Environmental Science, Washington State University	3 years, BLM, GIS 5 years, BLM, Ecological Site Inventory 6 years, BLM, Ecologist
Kim Schultsmeier	Range Conservationist	Wild Horses	Boise State College, 2 yrs Boise State University, 2 yrs general studies	1 year, BLM, Range Aid, 2 years, BLM, Maintenance 18 years, BLM, Range Technician
Paul Seronko	Soil Scientist	Soils Air Quality Hazardous Materials	B.S. Soil Science, University of Wisconsin, Stevens Point	2 years, Wyoming State, 16 years, BLM Soil Scientist
Jack Young	Archaeologist	Cultural Resources	B.A Inter-American Studies, University of Texas, El Paso El Paso M.A. Anthropology, Catholic University of America	19 years, BLM, Archaeologist
Tom Woodward	Geologist	Geology Minerals	B.S. Geology, Idaho State University M.S. Geology, New Mexico College of Mining and Technology	24 years, BLM, Geologist

Glossary

ACEC - Area of Critical Environmental Concern

AI&E - Analysis, Interpretation and Evaluation

AML - Appropriate Management Level

AMP - Allotment Management Plan

ATV - All Terrain Vehicle

AU - Animal Unit

AUM - Animal Unit Month

BLM - Bureau of Land Management

BMP - Best Management Practice

BRA - Bruneau Resource Area

CFR - Code of Federal Regulations

DPC - Desired Plant Community

EIS - Environmental Impact Statement

ERMA - Extensive Recreation Management Area

ESC - Ecological Site Condition

ESI - Ecological Site Inventory

FFR - Fenced Federal Range

FMAP - Fire Management Activity Plan

FTE - Full-Time Equivalent

GRA - Geographical Reference Area

HMA - Herd Management Area

HMAP - Herd Management Area Plan

HMP - Habitat Management Plan

IDF&G - Idaho Department of Fish and Wildlife

IMP - Interim Management Policy

MIC - Maintain, Improve and Custodial allotment management categories

MFP - Management Framework Plan

NPS - National Park Service (Department of Interior)

OHV - Off-Highway Vehicle

OHMV - Off-Highway Motorized Vehicle

ONA - Outstanding Natural Area

PL - Public Law

RMP - Resource Management Plan

RNA - Research Natural Area

ROS - Recreation Opportunity Spectrum

SCORP - Statewide Comprehensive Outdoor Recreation Plan

SOP - Standard Operating Procedure

SRBOPA - Snake River Birds of Prey Area

SRBOPNCA - Snake River Birds of Prey National Conservation Area

SRMA - Special Recreation Management Area

USF&WS - U.S. Fish and Wildlife Service (Department of Interior)

USFS - U.S. Forest Service (Department of Agriculture)

VRM - Visual Resource Management

WSA - Wilderness Study Area

WSR - Wild and Scenic River

Activity occasions - A standard unit of recreation use consisting of one individual participating in one recreation activity during any reasonable portion, or all, of any one day.

Actual use data - Numbers of livestock, kind and/or class of those livestock and period of time those livestock actually grazed a specific allotment or pasture.

Allotment Management Plan (AMP) - A documented program developed as an activity plan that focuses on, and contains the necessary instructions for, management of livestock grazing on specified public lands to meet resource condition, sustained yield, multiple use, economic and other objectives.

All Terrain Vehicle (ATV) - Small three-wheel and four-wheel recreational vehicles capable of operating off of hard surfaces and in rugged terrain.

Analysis, Interpretation and Evaluation (AI&E) - Once data are collected and compilation is completed, the process of analysis, interpretation and evaluation begins. Measurements or estimates are of no value unless their meaning is defined and presented in understandable terms to the resource manager and permittees. These data may then be used for management and planning purposes, and in particular, for determining the effects of management actions and for determining if management objectives are being achieved.

Animal Unit (AU) - One cow, one cow/calf pair, one horse or five sheep.

Animal Unit Month (AUM) - The forage needed to support one cow, one cow/calf pair, one horse or five sheep for one month. Approximately 800 pounds of forage.

Appropriate Management Level (AML) - the optimum number of wild horses that provides a thriving natural ecological balance on the public range.

Area of Critical Environmental Concern (ACEC) - Areas where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.

Band - a group of wild horses running together or a lone wild horse.

Beneficial use - Any of the various uses which may be made of the water of an area including, but not limited to, agricultural water supply, domestic water supply, industrial water supply, cold water biota, warm water biota, salmonid spawning, primary contact recreation, secondary contact recreation, wildlife habitats and aesthetics.

Best Management Practice (BMP) - A practice or combination of practices determined by the State to be the most effective and practicable means of preventing or reducing nonpoint source pollution.

Commodities - The goods and services produced by industries are classified in terms of one or more product types, or "commodities."

Custodial management - a group of allotments that share similar characteristics where the objective is to manage public lands with minimal expenditure of appropriated funds and continue protecting existing resource values.

Desired Plant Community (DPC) - The plant community which provides the vegetation attributes required for meeting or exceeding RMP vegetation objectives. The desired plant community must be within an ecological site's capability to produce these attributes through natural succession, management actions, or both.

Direct effects - Production changes associated with the immediate effects of final demand changes.

Earnings - Wages and salaries, other labor income and proprietor's income (including inventory valuation and capital consumption adjustments) by place of work.

Ecological Site Condition (ESC) - See ecological status.

Ecological Site Inventory (ESI) - The basic inventory of present and potential vegetation on BLM rangelands. Ecological sites are differentiated on the basis of significant differences in kind, proportion or amount of plant species present in the plant community. Ecological site inventory utilizes soils, the existing plant community and ecological site data to determine the appropriate ecological site for a specific area of rangeland and to assign the appropriate ecological status.

Ecological status - The present state of vegetation of a range site in relation to the potential natural community for that site. It is an expression of the relative degree to which the kinds, proportions and amounts of plants in a plant community resemble that of the potential natural plant community for the site. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential natural community (climax). Departures from climax can enhance or depreciate the value of the resultant plant community for various uses.

Ecological Status (Seral Stage)	Percentage of Present Plant Community that is Climax for the Range Site
Potential Natural Community	76 - 100
Late Seral	51 - 75
Mid Seral	26 - 50
Early Seral	0 - 25

Edaphic - Relating to the soil, resulting from or influenced by factors inherent in the soil.

Employee compensation: Wages and salaries paid to employees by industries plus the value of benefits, and any contributions to social security and pension funds by the employee and employer.

Excess wild horses - wild free-roaming horses which have been removed from public lands or which must be removed in order to preserve and maintain a thriving natural ecological balance and multiple-use relationship in an area.

Extensive Recreation Management Area (ERMA) - Areas where recreation is unstructured and dispersed with minimal regulatory constraints and where minimal recreation related investments are required. The ERMA includes all public land exclusive of SRMAs.

Fenced Federal Range (FFR) - A small amount of public land fenced with a large amount of private land.

Final demand - The ultimate consumers of commodities (goods and services).

Full Time Equivalent (FTE) - The amount of time worked in one or more jobs equal to a work year.

Geographical Reference Area (GRA) - An area of land with relatively similar climatic and geographic characteristics, resource values and conditions, opportunities for management and capability for resource response to management. Three geographical reference areas have been identified within the Owyhee Resource Area for this RMP effort: the Snake River GRA, the Jordan Creek GRA and the Owyhee River GRA. Boundaries were selected to include the greatest number of common resource conditions, concerns and opportunities. The boundaries are not fixed and may be adjusted based on additional information. See Map LAND-2 for the approximate boundaries.

Gross Domestic Product (GDP) - Measure of value of all domestic production for a given year excluding imports.

Habitat Management Plan - An activity plan for a geographical area of public land which identifies wildlife habitat management actions to be implemented in achieving specific objectives related to the RMP.

Herd area - the geographic area identified as having provided habitat for a wild horse herd in 1971.

Herd Management Area (HMA) - the geographic area identified in a management framework or resource management plan for the long-term management of a wild horse herd.

Herd Management Area Plan (HMAP) - an action plan that prescribes measures for the protection, management, and control of wild horses and their habitat on one or more herd management areas, in conformance with decisions made in approved management framework or resource management plans.

Herd - one or more wild horse bands using the same general area.

Improve management - a group of allotments that share similar characteristics where the objective is to manage public lands with adequate expenditure of funding and manpower to improve current unsatisfactory resource conditions.

Indirect effects - Production changes in backward-linked industries caused by the changing input needs of directly effected industries (for example, additional purchases to produce additional output).

Induced effects - Changes in regional household spending patterns caused by changes in household income (generated from the direct and indirect effects).

Industry - The manufacturer or provider of goods and/or services. Industries are categorized on the basis of their primary product, though they may produce a range of commodities.

Input-output analysis: A system of double entry accounts showing all transactions of individual enterprises, normally collected into aggregates of like enterprises, with other firms (i.e., sectors) within a given accounting period. Normally within a given "base year" inputs are what a firm (sector) buys, and outputs are what it sells. The entries must balance as the total expenditures of a given sector must equal its total receipts.

Interim Management Policy (IMP) - Policy for managing public lands under wilderness review. Section 603 (c) of FLPMA states: During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act: Provided, that, in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection.

Leakage - The amount of a dollar that leaks out or leaves an area or region to be spent elsewhere rather than remaining to be spent in the area it was generated.

Lek - A site where birds, specifically grouse, regularly congregate for display and courtship purposes.

Maintain management - a group of allotments that share similar characteristics where the objective is to manage public lands with minimal expenditure of appropriated funds and maintain current satisfactory resource conditions.

Management Framework Plan (MFP) - BLM land use land, predecessor to the RMP.

Minimum feasible level of management - the least amount of habitat improvement and population manipulation necessary to meet stated objectives for a herd management area.

Monitoring - the periodic and systematic collection of resource data to measure progress towards achieving objectives.

Multiple use - The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some of the land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the carious resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

Multipliers: The change in some economic measure resulting from a specified change in some other economic measure.

Net resource value change - The difference in value of planned resource outputs on an area before and after a fire. This figure includes all resource values including range, watershed, wildlife, soils and recreation. This figure is the average dollar value per acre within each fire management zone.

Off-Highway Motorized Vehicle (OHMV) - All motorized vehicles which are capable of being operated off of improved and regularly maintained roads having hardened or gravel surfaces.

Off-Highway Vehicle (OHV) - See Off-Highway Motorized Vehicle

Outstanding Natural Area (ONA) - An area with high scenic values that has been little altered by human impact. Under current BLM policy, outstanding natural areas must meet the relevance and importance criteria of ACECs and are designated as ACECs.

Perennial stream - A stream where water is present during all seasons of the year.

Personal income - Employee compensation plus property income.

Personal income multipliers - The direct, indirect and induced effects (type III multiplier) of a change in direct employment compensation generated by one dollar of final output.

Pesticide - Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Public lands - Any land or interest in land owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management.

Recreation Day - Any part of a day spent participating in a given activity.

Recreation Opportunity Spectrum (ROS) - A continuum used to characterize recreation opportunities in terms of setting, activity and experience opportunities.

Recreational river - Rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along the shorelines and that may have undergone some impoundments or diversions in the past.

Research Natural Area (RNA) - An area where natural processes are allowed to predominate and which is preserved for the primary purposes of research and education. Under current BLM policy, research natural areas must meet the relevance and importance criteria of ACECs and are designated as ACECs.

Resource Management Plan (RMP) - A land use plan as described by FLPMA.

Scenic river - Rivers or sections of rivers that are free of impoundments, with shorelines or watersheds largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Section 202 lands - Lands being considered for wilderness under Section 202 of the Federal Land Policy and Management Act of 1976.

Seral stage - See Ecological status.

Snake River Birds of Prey National Conservation Area (SRBOPNCA) - The 482,457 acre area established by Public Law 103-64 on August 4, 1993. The purposes for establishing and managing the area are to provide for the conservation, protection, and enhancement of raptor populations and habitats and the natural and environmental resources and values. There are 57,109 acres within the Owyhee Resource Area.

Special Recreation Management Area (SRMA) - Areas where recreation is one of the principle management objectives; where intensive recreation management is needed and which require more than minimal recreation related investments. Recreation activities in these areas are generally more concentrated, structured and regulated than in ERMAs.

Statewide Comprehensive Outdoor Recreation Plan (SCORP) - Recreation management plan developed periodically (about 10 years) by the Idaho Department of Parks and Recreation to help Federal, State and local agencies assess recreational use trends and the needs for future management and facilities.

Sustained yield - The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.

Thriving natural ecological balance - the condition of the public range that exists when resource objectives related to wild horses in approved land use and/or activity plans have been achieved.

Total PW Income - Total proprietor's income and wages.

Trend - The direction of change in ecological status observed over time. Trend is described as toward or away from the potential natural community, or as not apparent.

Type I multiplier - The Leontief Inverse is a matrix of Type I multipliers -the direct effect (produced by a change in final demand) plus the indirect effect divided by the direct effect. Increased demands are assumed to lead to increased employment and population, with the average income level remaining constant.

Type II multiplier - The sum of the direct, indirect, and induced effects divided by the direct yield Type II multipliers. This is done for a "Closed Model" - households are brought into the transactions matrix as an industry, and the resulting matrix is inverted in the manner as the Open model. The total requirements coefficients for the Closed Model, therefore, include induced effects in addition to direct and indirect effects. Since households are defined as a production sector, the relationship between changes in final demand and household expenditures is linear, in the same way as industrial production functions are linear. The assumption is that an increase in output will raise income levels, and therefore increase household spending proportionately.

Type III multiplier - The Micro IMPLAN Type III multiplier is a modification of the Type III multiplier developed by Miernyk (1965). The IMPLAN Type III compares direct, indirect, and induced effects to the direct effects generated by a change in final demand (direct + indirect + induced, all divided by direct). Type III (Open Model) induced effects are quite different from the induced effects of a Type II multiplier. To minimize the overestimation that occurs with a linear consumption function, IMPLAN estimates Type III induced effects based on the changes in employment and population.

Utilization - The proportion or degree of the current year's forage production that is consumed or destroyed by animals (including insects). Utilization may refer either to a single plant species, a group of species or to the vegetation as a whole. Utilization is synonymous with use.

Value added - The additional or incremental value which is added to a good or service do to a change in its makeup or service. Value added includes employee compensation, proprietary income, other property type income, and indirect business taxes.

Wild horses - unbranded and unclaimed horses that use public lands as all or part of their habitat, or that have been removed from these lands by the Authorized Officer but have not lost their status under Section 3 of the Wild and Free-Roaming Horse and Burro Act of 1971 (PL 92-195).

Wild river - Rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.

Wilderness Study Area (WSA) - A roadless area that has been inventoried and found to have wilderness characteristics as described in section 603 of FLPMA and section 2(c) of the Wilderness Act of 1964.

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